i - Business Game

Business simulation

USER'S GUIDE

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Business simulation

Version 1

***i*- BUSINESS GAME**

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This manual corresponds to the **version 1.c** of ***i*- Business Game**

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I. INTRODUCTION TO *I*- BUSINESS GAME

You are going to play a **BUSINESS GAME**.

For several quarters, you will be at the head of an industrial society, faced with fluctuations in several markets and facing competition.

You will select your objectives; you will define your strategy aiming to reach them. Then you will translate the strategy into operational decisions.

For each Game quarter, you will make decisions on COMMERCIAL, FINANCIAL and PRODUCTION matters. You will also manage the QUALITY and the PERSONNEL policies.

The computer uses a model that simulates the reactions of markets, reacts to the balance between competitors and all the financial, social, technical and stock market consequences of your decisions and the resulting sales.

This model cannot pretend to represent the whole real business life. It will have realistic reactions for the global market, market shares and financial results of your company but it is obvious that any simulation model is more simple that reality.

Do not look for a truth known in the figures for each country. They have only been chosen to represent different economic or political environments. As in reality, changes in these environments could occur. You will be notified and will have to consider when planning your future decisions.

You might be tempted to thwart the model by taking extreme decisions, implausible, that you never would take in real life. Know that the program checks the reasonableness of decisions and penalizes those extreme policies. Moreover, much of the educational interest of the game would also be affected.

You are reading this user's manual. It will help you to personally learn what the company is that you are going to manage. You will find all the rules governing the simulation.

Your are taking the management of a company that has an history. You have some market shares and a financial position translated in the company reports. The animator has given you access to reports and data file about the past to allow you to analyze your status.

The environment in which you work is uncertain. You will survey economical ratio as GNP, interest and tax rates, currencies and market size.

To reduce the uncertainty, at the beginning of the Game or along all the quarters, you will have access to computer tools. They are based on several management techniques allowing you to analyze the past, and to do forecast, correlation or simulations. You will get various reports, in list form or graphics.

IT IS ESSENTIAL TO REALISE <u>WITH YOUR TEAM</u> THE ANALYSIS OF THE PAST !

From this analysis, we suggest each team, before the real Game starts, to prepare the policy you will adopt to reach the objectives that you will priorities.

The list of open objectives can be adapted to each game's session. Typically these objectives could be :

- market shares
- growth of financial reserves
- return on equity
- earnings per share
- stock market value of your company

You will rank these objectives according to your own priorities.

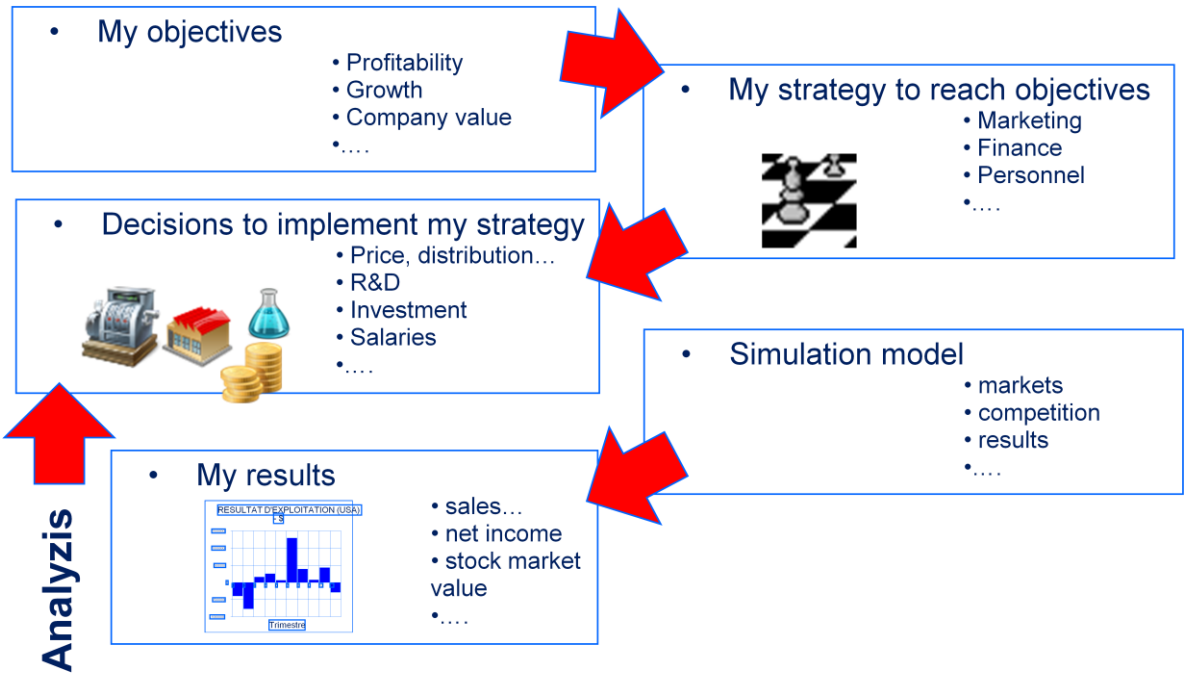
You will define your strategy and will have to adopt all along the Game a behavior aimed to reach these objectives that can be different than your competitors' choice.

Some of the decisions will be submitted as in reality to negotiation and approval of Game organizers, playing the role of banker or Securities & Exchange Commission.

You will also manage your relations with the shareholders. It could be requested to write a report to shareholders, on a quarterly or on annual basis. It will synthesize the company status and you hope and plans for the future.

You will also use the animators as consultants to get additional information or advice.

You will find in the "Game Web", as in the "Financial news", a significant volume of information. Sharing the various tasks in your team, you will analyze them and then react.



WHAT ARE OUR OBJECTIVES?

Don't think that reality can be as easily mastered as it is possible in the simulation!

We want to illustrate by practice some management methods in various disciplines as marketing, production, finance and optionally quality or personnel.

We want to show you as they are interdependent and to push you to plan your decisions in a coherent way.

The complexity of your business will lead you to work in teams to analyze the results, prepare your plans, make the decisions and eventually modify your tactic.

Organize your team as you want. Each member can specialize or share all major decisions but whatever your choice is, never forget to work as a team. You will translate your choices publishing the organization chart for your company.

In principle you will use the English version of the programs. If your school uses the bilingual version you will also have access to the French version. In this case you can also use the French manual that will give you the same information.

GOOD LUCK !

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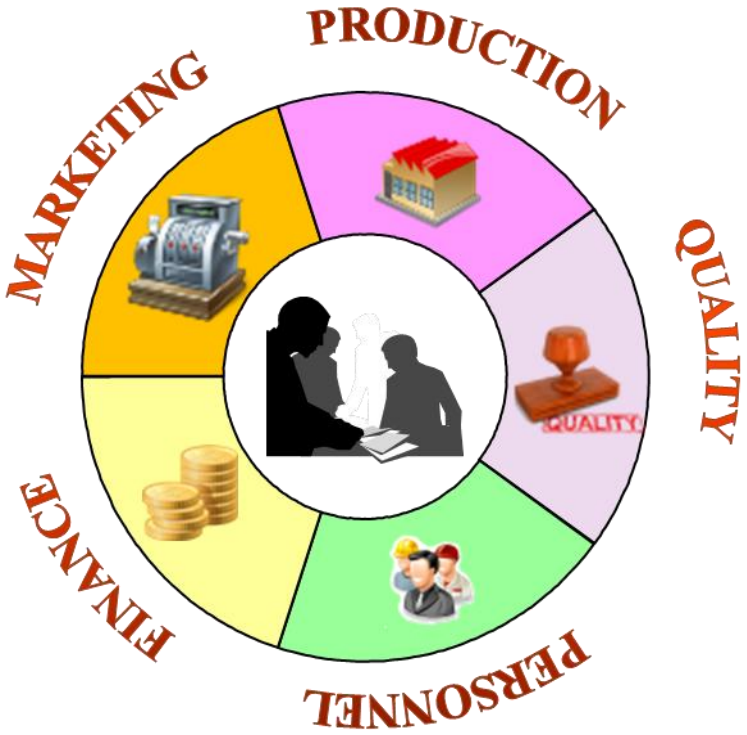


IMPORTANT REMARK

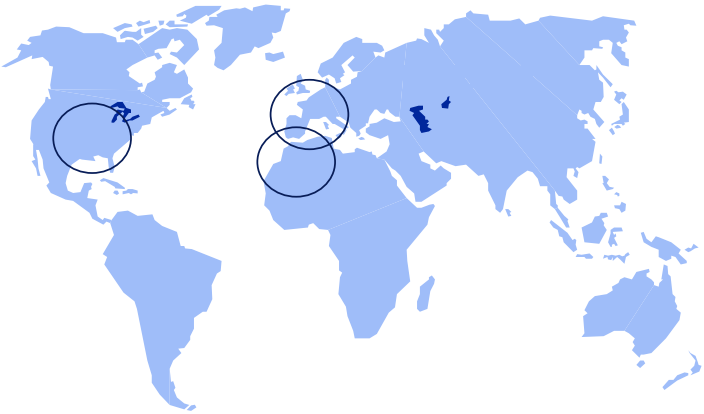
This simulation relies on a SCENARIO that defines the market conditions, economical environment, countries and the starting position of the companies. This manual includes examples based on a standard scenario. It is possible and even probable that the Game animator proposes a different scenario. The values displayed in this brochure will then be different. Furthermore, some modules as QUALITY or PERSONNEL are optional. It is possible that you will not use it. The Game organizer will inform you and will give you on the Web site the real figures of the scenario you will follow.

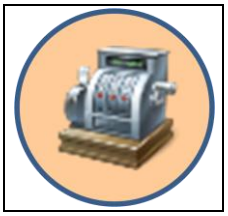
In this manual:
The elements which are susceptible to vary from the standard scenario are shown in brackets as (USA).
The optional elements are identified with (*)

III. THE SIMULATION'S RULES

A. SELLING & PRODUCING

1. The Market





You are working on (two) markets: (USA) and (FRANCE). On the domestic market, the (US) market, you have all your production facilities. The currency is the (dollar).

On foreign markets, (FRANCE) and (MOROCCO), your activities are limited to sales. The currencies are (euro) and (dirham).

You are not currently working on the (Moroccan) market. You can enter into it during the Game according to your objectives. It is a new action ground with a high GNP growth, where the first competitors entering to the market can have significant results.
You can also decide to leave a market but it would be very expensive to come back.

You have valuable information in the Marketing report, for each quarter that you will analyze carefully.

Consider that some of those figures can have approximate values because it is sometime difficult to get very accurate data on market shares or advertising expenses of the competitors.

You will note in the historical reports that the competing companies are, at the end of quarter 11 in the standard scenario, in a very similar situation although the past evolution was different. You can consult all the results of previous quarters. The comparison between global marketing reports and the accurate internal reports about your own results will allow you to evaluate the accuracy of global reports. Be careful! That will represent a significant amount of data that you will have to analyze to extract the relevant information.

With these reports and using the decision aid tools for analysis and forecasting, you will see that the total demand on each market varies essentially according to six factors:

- Gross National Product
- Season variation
- Global advertising effort
- Research & Development effects
- Average prices on market
- Global efficiency of distribution networks

Your competition position will be influenced by the gap between you and your competitors for prices, R&D, advertising and quality. You can also adapt your distribution policy and select decisions aiming to motivate your sales force.

You are working in a "B2B" activity. In "Business to Business", your clients are industrial companies having designed their own products around yours. Therefore, they will be aware of the competitiveness and of stability of your offer.

Your market share in each country will depend on the behaviour of two customer groups:

- the **usual customers**, influenced by your brand they have purchased in the last quarters but who could be disappointed by high price increase or quality problems and the ratio of price/quality evolution. They will also appreciate a possible ISO 9000 certification that you could decide to setup.
- the **occasional client**, attracted by the quality of your products, the publicity and/or their prices.

According to the decided strategy, you will produce first class products or wider diffusion goods. Select an adequate ratio of quality/price corresponding to you product and your competitive position.

Be aware of the consequences of the loss of your usual customers for instance if you don't offer enough products to fulfill their demand or if your quality is poor or if you lose your ISO certification.

For the new (Moroccan) market you can receive valuable information from the Game animator.
Never forget that one of the major elements that will influence the market and your results is the competition. You don't play against the computer but against your competitors. For this reason it is essential to carefully check your competitors' results to adjust your own decisions.

2. Your company – your products

The plant of your company, located in (United States), produces the quantity needed for the domestic market and the foreign sales.

Those products, although similar, have to be adapted to the specific requirements of (French) or (Moroccan) market that can have different norms or local usage. Therefore, their costs, therefore their prices can be slightly different.

These special products can be re imported in (USA) in case of excess inventory but the product for domestic market cannot be exported.

The product manufactured in a quarter for export will be available for sale **on next quarter**. The same delay occurs when the products are re imported.

You work with one single product type, as your competitors. Nevertheless you can make your product more competitive, increasing your Research & Development effort and adapting your Quality policy (*) which could be the basis of an ISO 9000 certification.

You will be able to act on the cost price of your products, and thus on your margins, while acting on your wage costs, your purchases of raw materials and manufacturing volumes.

3. Marketing information

You can act on five parameters that will influence the global market and your market share:

- The sales price
- The advertising budget
- The Research & Development
- The distribution network
- The product's quality

The influence of those factors will vary, obviously, with the competitors' decisions and economical environment. Thus, an increase in advertising effort for one company, will not lead to the same result if it is isolated or joined with a similar effort of all companies in the market.

The publicity budget can be broken down between different axis:

- Product promotion
- Company image improvement
- Distribution network support

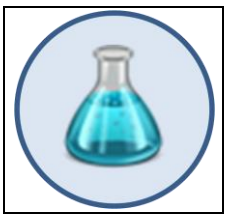
This balance between different axis could be changed along the time, to fit the various situations as :

- Opening of a new distribution network
- Loss of market shares
- Changing your product positioning
- …

In addition, the customer's fidelity and the remanence of the publicity and R&D effects will push you to analyze the combination of those parameters through a correlation method.

Efforts on Research & Development can be balanced between:

- Product improvements aiming to increase competitiveness or/and cost
- Intrinsic quality improvements
- Publicity communication efficiency



At the beginning of the simulation, you are selling in (USA) and (FRANCE) through wholesalers. You can decide to work with exclusive agents or create your own distribution network. This will improve your efficiency but the involved cost will be higher ...

When you work with wholesalers or exclusive agents, you will be able to increase their effectiveness in their granting higher " distributor margins ". For your own network, you will be able to motivate your sales force by reinforcing it and while giving higher bonuses to salesmen.

Of course, these choices will have an impact on your net margins and it will thus be necessary that they are in coherence with your pricing policy, volumes and the positioning of your product.

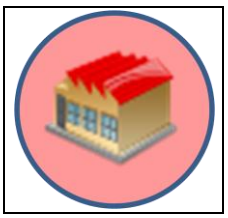
The effectiveness of the networks will follow a "learning curve". An effort of communication targeted on the distribution will make it possible to accelerate the improvement of the effectiveness of the network.

Potentially the effectiveness of the exclusive agents and the privately owned network is higher than the effectiveness of the wholesalers. But that will also depend on the efforts of publicity, the granted margins, the size of sales force and the bonuses granted to the salesmen.

By changing network, initially, you will undoubtedly lose certain effectiveness and certain faithful customers could pass to competition. But of the constant efforts will allow you to return to an equivalent effectiveness then to exceed it.

When you modify your distribution network, you have to support initial charges, the highest one corresponding to the creation of your own network. Whatever is the new type of distribution, you must jointly invest in advertising. If not adequate, your distribution network change would be inefficient.

4. Manufacturing



At each quarter, you decide the parameters that will define the product quantity available for sales, for short and medium terms, but also your inventories and work-in-process.
Those factors are:

- The production capacity
- The manufactured quantity
- The exported quantities
- The manpower

- The machine refurbishing

Furthermore, the available quantity for sales will depend on your production yield. Manufacturing defects will imply retouching, lost time, scrapping. (*) Read the chapter related to Quality. You will see that the Quality decisions will influence the yield. Some social events and absenteeism can also lead to production losses or to a lack of productivity. The productivity will also vary with people's motivation and training.

To produce, you will need two resources:

- the capacity of the machines, which you will be able to increase by your investments
- the manpower which will be able to vary according to various factors, such as the experiment, the social climate, the age of the machines, the effects of volume …

5. Manpower

Your workers, having a similar professional qualification, are currently working (40) hours weekly. Therefore, at each quarter the manpower availability is (480) hours per man.

The overtime allows you, today, to get an additional activity of (20%). However you cannot exceed the quantity corresponding to the shop capacity but only produce more without hiring people. You will find in next pages the hourly cost rate and the supplement for overtime.

You can adapt your manpower level to your manufacturing plan, hiring people or deciding on layoffs. This will be limited by the labor market conditions which can vary along quarters or with legal regulations. For the time being, a quarterly 10% change in manpower level seems to be possible.

(*) The changes in working time will also obviously influence the manpower capacity.

If you hire people, the new personnel are immediately available for production in the current quarter. (*) The productivity will vary with the pyramid of ages and the seniority, with the disengagement consecutive to your social policy and with the labor market conditions.

The estimated unit times by product for each country are:

- US PRODUCT : (0.5) hour/unit
- FRENCH PRODUCT : (0.6) hour/unit
- MOROCCAN PRODUCT : (0.7) hour/unit

These standard times will change e.g. , with the volumes produced for each country, the productivity related to the age of the machine, the experience and the staff training like his motivation.

Efforts of Research and Development will also make it possible to improve the costs of manufacturing of the product, both for the unit times of production but also on the raw materials involved.

Despite the use of overtime, if your production plan exceeds the available capacity, the simulation model will automatically reduce the decided quantities to the possible level.

All the figures presented correspond to the figures of quarter 12. They can vary during the simulation.

6. Productivity

These unit values are based on a normal productivity in a shop equipped with recent machines.

It seems possible to maintain this productivity level, without difficulty for machine being less than two years old. Beyond this age, the maintenance charges increase and then you will need more manpower to achieve the same production level.

The investments to increase capacity will obviously influence the average age of the machines. It is also possible to maintain the productivity by refurbishing partly or totally the machine shop. The cost is 1 (Dollar) by refurbished unit capacity.

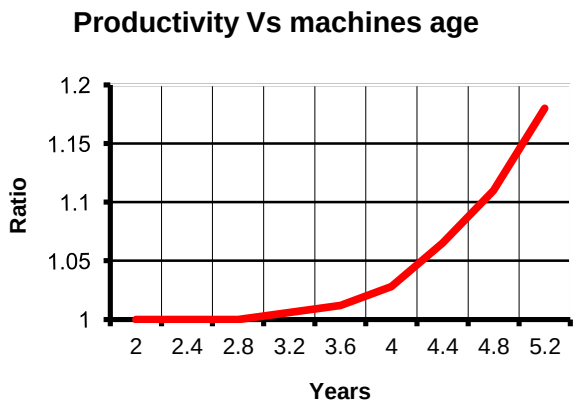
In the production report, you will find the information needed to manage the productivity:

- Average age of machines
- productivity ratio: 1 corresponds to a better productivity
- Number of hours per unit produced for each market

The cost variance resulting from a productivity decrease will appear in the operating results in the account: «VARIANCE ON SHOP OVERHEAD».

The refurbishing expenses have no effect on fixed assets net value.

The following graph shows the evaluation of productivity decline Vs average machines age. i.e. for an age of 4.10 years, you will need 10% additional manpower for the same production volume.



7. Machine capacity

At the simulation beginning, your available manufacturing capacity is (600000) units. This capacity can be partly or totally loaded for the production of each quarter. The production could also be limited by an insufficient level of manpower.

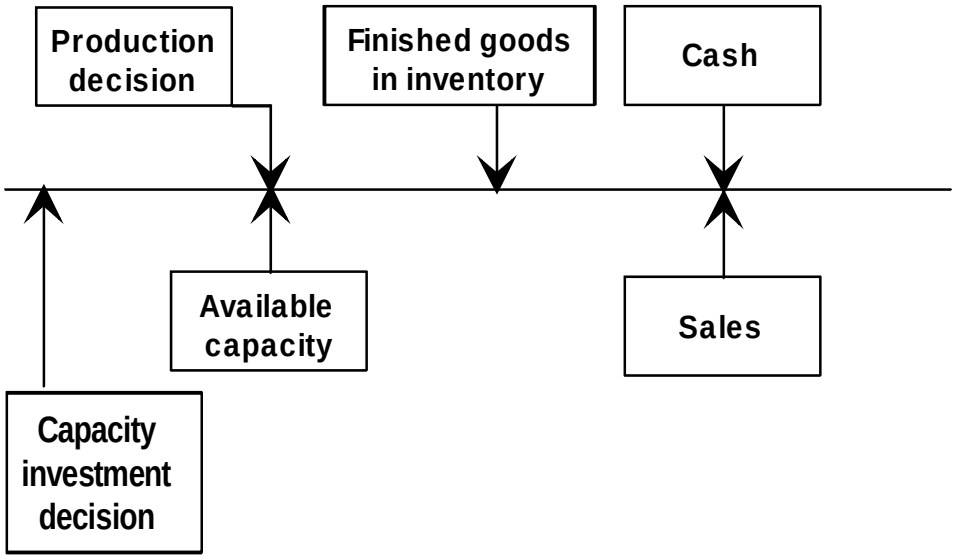
The fixed costs related to the available capacity are due even if the capacity is not completely loaded. Be aware of these fixed costs if you maintain an idle capacity for a long time.
You can increase your production capacity at any time but never reduce it. You have to plan correctly the capacity, the manufacturing plan, the inventories and the yield to be sure that your sales plan is covered (despite the offset between the quarter when you invest, the quarter of manufacturing and the quarter for sale).

(*) Do not forget that quality defects can lead to scrapping and quantity used for product replacement under warranty.

Insuring the balance between sales plan, manufacturing plan, manpower plan, capacity investment and finance will allow you to optimize the cost related to the manufacturing equipment and therefore to increase your margins.

The usage of a spreadsheet program as «EXCEL» will help you to prepare these plans and do the follow-up all along your company's life.

8. Capacity investments



Investment is the only way to increase the machine shop capacity. The picture illustrates that the decision to invest in capacity is related to the possibility of additional sales with an offset of two quarters.

The decision on investment taken on quarter Q does not allow you to produce more in this quarter Q than the available capacity of quarter Q-1.

At quarter Q+1 the new capacity is now available but the additional manufactured products will only be available for sales on quarter Q+2. Then you will get the first cash flow related to your investment.

Each investment project will imply a fixed cost for the project study (100000$). This expense is taken as a miscellaneous cost, charged to the current quarter and not depreciated.

The cost of capacity increase is (30 $) per additional unit. This amount is taken as fixed assets and depreciated on a linear basis over 10 years (2.5% per quarter).

9. Export - inventories

The total planned quantity for products manufactured in a quarter covers the quantity intended for domestic market and foreign market(s).

(*) In case of production scrap or shortage due to strike, the lost quantities will affect equally all the markets on which you work.

The product units manufactured in a quarter will be available for sales in the next quarter once the quantity reserved for warranty has been deducted. The same rule is true for foreign markets.

In the reports, the domestic or exported quantities are included in the «**Work in process**».

You will find in the production report and inventory report all the information on production, work in process and availability for sales.

The total exported quantities cannot, obviously, pass beyond the total manufactured quantity. On the other hand, you can decrease your available inventory in foreign subsidiaries by exporting these quantities back to the domestic market. They will be available for sales in next quarter.

Then, they will be accounted in the domestic inventory for sales on next quarter but the standard cost difference between the foreign and the local products will be charged to Profit and Loss in the account: «LOSS ON RE IMPORTED QUANTITIES».

The shipment costs are always paid by the headquarters. The current level is (0.25 $) per unit.

To import the products in the foreign country you must pay import fees (currently 0.2 euro or 0.8 dirham per unit). They are charged to the foreign subsidiary and cannot be recovered in case of re importing some products.

In the reports, the FINISH GOODS and WORK IN PROCESS are valorised at actual standard cost of the quarter.

The FINISHED GOODS inventories imply warehousing charges that can represent 10 to 20% of the value of goods over one full year. This rate includes the warehouse itself and the inventory administration. Beyond a certain threshold, this rate can be much higher because you will be obliged to rent additional warehouses.

Those critical levels are around :

- 375000 units for (USA)
- 35000 units for (FRANCE or MOROCCO)

B. COSTS

This section explains the calculation rules of several costs involved in your company activity.

The definition of these costs and the logic relating all costs together are included in the chapter II describing the different business reports.

You will have access to a **result simulation** that will allow you, taking into account your decisions and sales plan, to know the forecaster cost level, following realistic rules, close to the model rules even if some approximation can affect the simulated results. This will allow you to avoid spending non productive time and tedious tasks preparing your decisions.

Nevertheless, even using this easy tool to prepare the decisions, it is necessary to know the cost structure, explained in this chapter. That will help you to determine your sales prices, control your margins, plan your treasury, but also to avoid the trap of a simulation result used without critical analysis.

1. Cost of products

You use a STANDARD COST system. There are three components in the standard cost of a product:

- the manpower cost
- the materials cost
- the production overhead expenses

These standard costs were estimated based on a production of 600000 units, and a capacity level of 650000 units. It was assumed that the ratio of total export was 12 to 1.

The costs presented in the table below correspond to the typical volume of production, based on which standard costs are calculated.
You will probably have to produce more or less than the volumes observed and actual costs will differ from these standard values.

You will find real values in the production report and results of simulations.

Volume effects will manifest themselves in two ways, the labour unit time and unit cost of materials purchased:

- Depending on the total volume produced, for all countries, for example, a company that has invested and which therefore produces more, will see its unit cost down. Conversely, underutilization of capacity would lead to an increase in unit costs.
- Depending on the volume launched for a country. So you could decide to concentrate production from one quarter to one country, then to store these products with a unit cost has been optimized.

PRODUCTION : COSTS

	USA	France	Morocco
MANUFACTURING STANDARDS			
Planned hours by unit	0,50 h	0,60 h	0,70 h
Standard cost	6,95 $	8,64 $	9,54 $
Standard manpower	4,50 $	5,40 $	6,30 $
Standard materials	1,200 $	1,440 $	1,440 $
Standard Overhead	1,25 $	1,80 $	1,80 $
PRODUCTIVITY			
Average machines age	1,96		
Productivity ratio	1,000		
Actual hours by unit	0,501 h	0,602 h	0,702 h
MANPOWER COSTS Vs VOLUME			
Saving due to total volume	2,60 %		
Saving due to volume on country	1,08 %	-0,34 %	-0,74 %
Total hours saved	13350 h		
Saving(+) or overcost(-)	3,19 %		
Final Manpower unit time	0,48 h	0,59 h	0,69 h
MATERIALS COSTS Vs VOLUME			
Saving due to total volume	6,92 %		
Saving due to volume on country	-3,35 %	-6,39 %	-8,20 %
Saving on purchasing costs	19336 $		
Saving(+) or overcost(-)	1,83 %		
Standard materials cost	1,200 $	1,440 $	1,440 $
Materials cost with AQL	1,293 $	1,552 $	1,552 $
Final materials unit cost	1,247 $	1,543 $	1,571 $

	(American) product	(French) product	(Moroccan) product
Standard cost of manpower	(4.5$)	(5.4$)	(6.3$)
Standard cost of raw materials	(1.0$)	(1.2$)	(1.2$)
Standard cost overhead	(1.25$)	(1.8$)	(1.8$)
TOTAL STANDARD COST	(6.75$)	(8.40$)	(9.30$)

The difference between the standard cost of products destined for each market, domestic or export, is linked to additional tasks, mainly packing and changes to fit local norms. For the same reasons, the American products cannot be exported to be sold in foreign countries.

(*) If the simulation includes the use of the QUALITY module, the real cost of raw materials will vary with the decided quality level for purchased items (AQL), the sampling policy for receiving inspection, the scrapping level in manufacturing due to bad workmanship. All those elements described in the section "QUALITY MANAGEMENT" can lead to variances.

Continuous efforts of R&D to improve your product will also enable you to reduce the cost of manufacturing, by optimizing the work time as well as the raw materials purchasing.

The effects of volume will appear in two manners, modifying the manpower time per unit and on the unit cost of the purchased raw materials:

- According to produced total volume, including all countries, for example, a company which invested and which thus produces more, will see its unit cost price dropping. On reverse way, under use of the capacities would lead to an increase in these unit costs with a insufficient coverage of fixed costs.
- According to the volume launched for one country. You could thus decide to concentrate the quarter production on only one single country, even if it means to store these products whose unit cost will have been optimized.

2. Manpower cost

Currently, each worker performs (480) hours per quarter equal to 12 weeks with 40 working hour per week. The average hour rate is ($9). The direct cost for a normal presence is therefore ($4320) for a quarter.

The overtime hours are paid with a bonus of 50% ($13.5).

The hiring cost and layoff charges are respectively ($2000) and ($500).

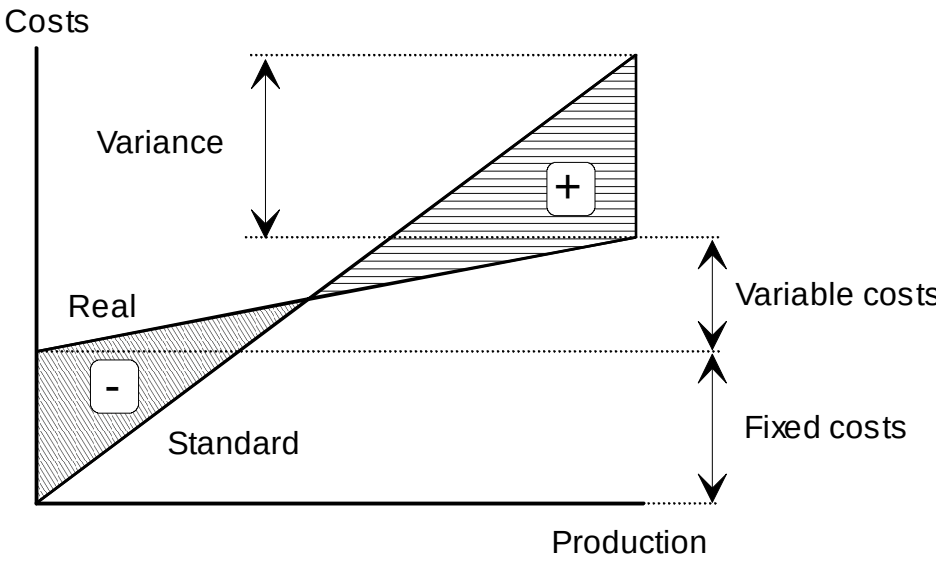
(*) IF YOU USE THE PERSONNEL MANAGEMENT MODULE:

In this case, the hourly cost includes the basic salary. This level will vary with the decided general increases or the merit increases. The starting level is $7.33. You must add the social charges which are (28.5%). Then the average salary cost is 8.92$. This salary varies with the age and the coefficient related to the age classes are displayed in the "age pyramid" in the social report. Your hiring policy will therefore influence the average hourly cost. The other salary components as bonus or profit sharing will not affect the standard cost and will be accounted for in the manufacturing variances.

3. Manufacturing overhead

They include a fixed component and variable component of production overhead costs. The fixed overhead include:

- depreciation
- overhead linked to production capacity
- miscellaneous production expenses



In fact, the measured overheads in the past show that these "fixed" costs are only flat in a specific capacity range. Those expenses are due even if the full capacity is not used. They are mainly related to the shop machine maintenance.

The fixed overhead includes non productive people, manufacturing management and some operating expenses not linked to production volume.

(*) All exceptional costs as social expenses, profit sharing or bonus, are accounted in the real manufacturing expenses as the Quality Control overhead or scrapped products cost. All those elements can lead to manufacturing variances.

The variable overhead costs are linked to the manufactured quantity and to the balance between domestic production and exported goods. For an available capacity of 650000 units loaded with a production of 600000 units (including 50000 units for (French) market), the estimated overhead costs per unit are $1.25, $1.80, $1.80 for the US, French and Moroccan markets.

When the production capacity or the production scheme changes or the real costs are different, the standard cost is only an approximation of the real costs. The difference is reported as «**MANUFACTURING VARIANCES**»

Those standard costs are used to valorize the inventories and work-in-process.

When the production capacity or the production scheme changes or the real costs are different, the standard cost is only an approximation of the real costs. The difference is reported as «MANUFACTURING VARIANCES».

These variances are linked to various factors:

- Manufacturing and purchase volumes
- Salaries and more generally real expenses related to manpower
- Working time
- R&D effects
- Quality policies and more specifically the scrapping
- Evolution of raw materials prices
- …

4. Capacity investments costs

To increase the production volume you must increase the machine capacity. Overtime or machine maintenance can only influence the manpower needed to produce but in any case the production is limited to the machine capacity.

To increase the capacity you will pay ($30) per additional unit. Each investment project will also cost you a fixed fee of ($100 000) corresponding to engineering and project overhead. This fixed fee is independent of the size of capacity increase.

The variable unit investment cost ($30) is accounted in the value of the fixed asset and will be depreciated. The fixed fee ($100 000) is accounted as MISCELLANEOUS EXPENSES, in the quarter of the investment and will affect immediately the operating result.

The depreciation charge is 10% per year. The maintenance expenses have no influence on depreciation.

YOU CAN USE THE "DISCOUNTED CASH FLOW" MODEL TO EVALUATE THE RETURN ON INVESTMENT FOR YOU PROJECT (see chapter VII)

5. Warehousing costs

They are evaluated on basis of inventories at the end of the quarter. As explained other where, they can vary quickly over a certain threshold.

6. Shipments – import fees

The shipment expenses are charged to the headquarters. The unit cost of ($0.25) is due for each unit transported for USA to foreign market or back to USA.

IMPORT FEES
The unit import fee of ($0.20) is paid by the foreign subsidiary in any country. These import fees are not reimbursed in case of quantity brought back to the headquarters market.

7. Sales & administration costs

They have mainly two parts:

- Some fixed costs related to sales department structure, nearly flat but which can vary for different sales levels, according to sales volume global level, distribution network type and learning curve position of the distribution network.
- The variable component is linked to sales volume and cost of customer service processing your client's claims.

These costs cover :

- Order processing and invoicing
- Order processing logistics
- After sales processing taking in charge customers claims et product replacement logistics

…

Furthermore, it appears that those costs are influenced by the continuity of your presence on a market. To access to a new market or to come back to a market you will have to pay a higher cost corresponding to the network set-up. You can change the type of an existing network. The set-up costs vary with the network type. They are obviously lower for wholesalers, intermediate level with exclusive agents and higher for a privately owned network.

Cost can be higher but efficiency is also different and cost will decrease after the network creation phase.

Beyond these costs of administration of the distribution, you will have also to support the expenses of distribution corresponding to the operation of the sales force.

8. Efficiency & cost of distribution networks

You have the choice between three modes of distribution:

- The **wholesalers** who will sell your product but also products of competition
- The **exclusive agents** which, in the range of product which is your, will sell exclusively your products
- **A privately owned network** of which you control the costs corresponding to the number of salesmen of your sales force

If you work with distributors of the type 1 or 2, you will have to give to them % of " distributor margin ", applied to the selling price of the product.

By increasing their margin, you will increase their motivation but your costs of distribution will increase in a linear way.

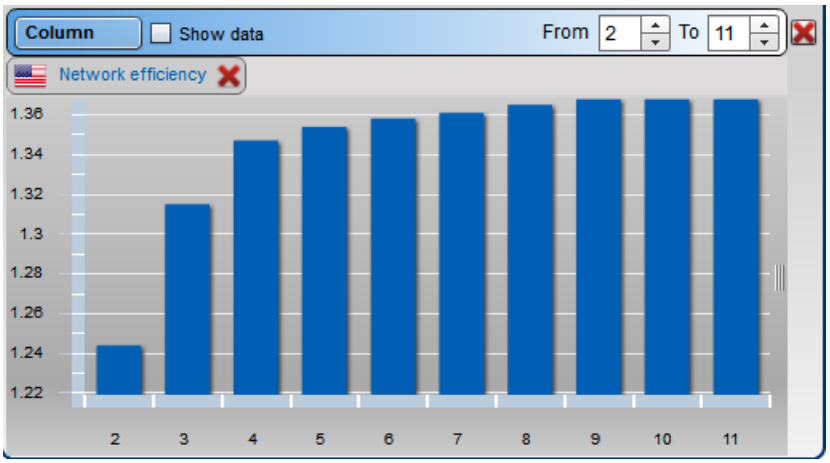
With your own network (3), you decide number of salesmen. Their effectiveness will vary with the volume of market which they will have to address, therefore of their number, but also of % of bonus on wages that you will give them.

The monthly wages of the salesman are of (2500$) in the USA, (2250€) in France, and of (6000) Dirham in Morocco.

In the menu of decisions data entry, you see appearing of "bubbles" of colour which vary from white to black, with intermediate levels in yellow, green and blue. You see colour changing according to variation:

- Of the distributor margin for the wholesalers or exclusive agents
- Among sellers and among their sales bonus for privately owned network

If white or yellow levels are probably low, purple or black levels are undoubtedly abnormally high. Expenses corresponding to these levels can be estimated in the « simulation of results ».



9. Summary of costs (may vary with the session's scenario!)

PRODUCTS FOR (US) MARKET	
raw materials	1.00 $
manpower	4.50 $
overhead	1.25 $
STANDARD COST	6.75 $

PRODUCTS FOR (FRENCH) MARKET	
raw materials	1.20 $
manpower	5.40 $
overhead	1.80 $
STANDARD COST	8.40 $

PRODUCTS FOR (MOROCCAN) MARKET	
raw materials	1.20 $
manpower	6.30 $
overhead	1.80 $
STANDARD COST	9.30 $

MANPOWER COST	
normal hours	9.00 $/hour
overtime	13.5 $/ hour
quarterly cost	4320 $/man
layoff cost	500 $/ man
hiring cost	2000 $/ man

MACHINE CAPACITY	
Investment fixed cost	100 000 $
proportional cost	30 $ /additional unit
depreciation	10 %/year
machine refurbishing	1 $ per renewed unit

COST IN A PRIVATE DISTRIBUTION NETWORK	
Basis salary for salesman in USA	2500 $
Basis salary for salesman in France	2250 €
Basis salary for salesman in Morocco	6000 D

WAREHOUSING	+/- 10% of standard cost/year
Cost of ISO 9000 certification audit	15 000 $
Cost of ISO 9000 recertification audit	5 000 $
SHIPMENT	0.25 $ per unit
IMPORTATION	0.20 $ per unit

C. FINANCIAL MANAGEMENT

1. Money transfers

You can move money from a foreign subsidiary to USA or back from USA, but you cannot transfer money directly between (France) and (Morocco). There is, up to now, no money transfer limitation.

In the decision set-up menu, you select the destination of transfer you will key in the amount of money to be transferred, in LOCAL CURRENCY of the country sending it. That could correspond to money transfer to finance an investment in the distribution network or to take advantage of interesting capital investment rates.

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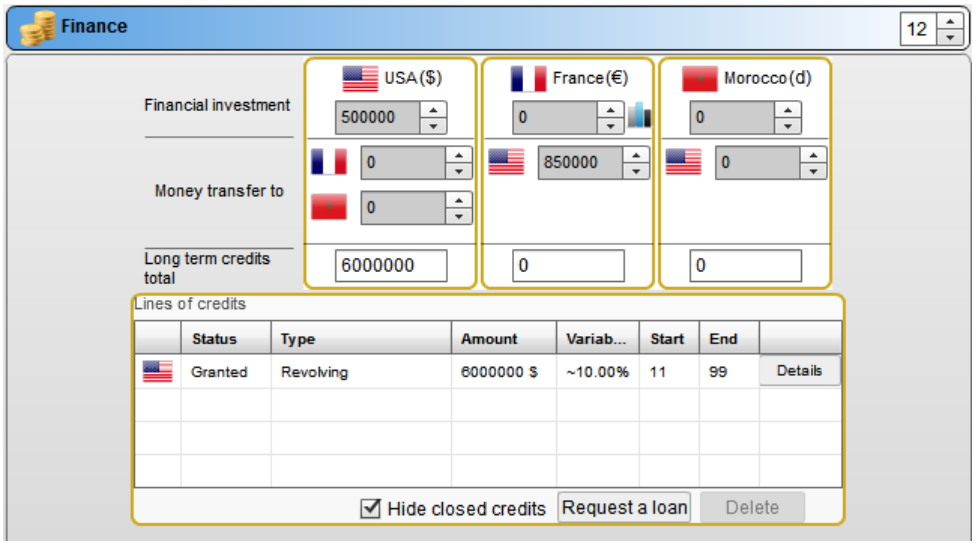


During the transfer, the amount is immediately translated in the currency of the destination country, using the current currency rate.

2. Financing the company

At the time when you take over the company management, your balance sheet will show a capital and retained income, but you will also have debts, long term or short term. Most likely you will need additional resources to finance your plans.

Financing will have two sources:

- Capital increase
- Long term loans

In both cases, you could be pushed to justify your request for credits or shares release, either to the banker, either to the Security Exchange Commission.

3. Long and medium term loans

- <u>If the "Finance" module is not active</u>: long term credit are "revolving". You can, at each quarter, execute all the moves, reimbursement or money calls while the total net result of the move remains inside the allowed amount. Then no negotiation is needed since you stay inside this credit allowance.

The loan rate, identical for all teams, is variable, equal to the prime rate in the quarter in the country where the credit is granted. (Prime rate is displayed in marketing report).

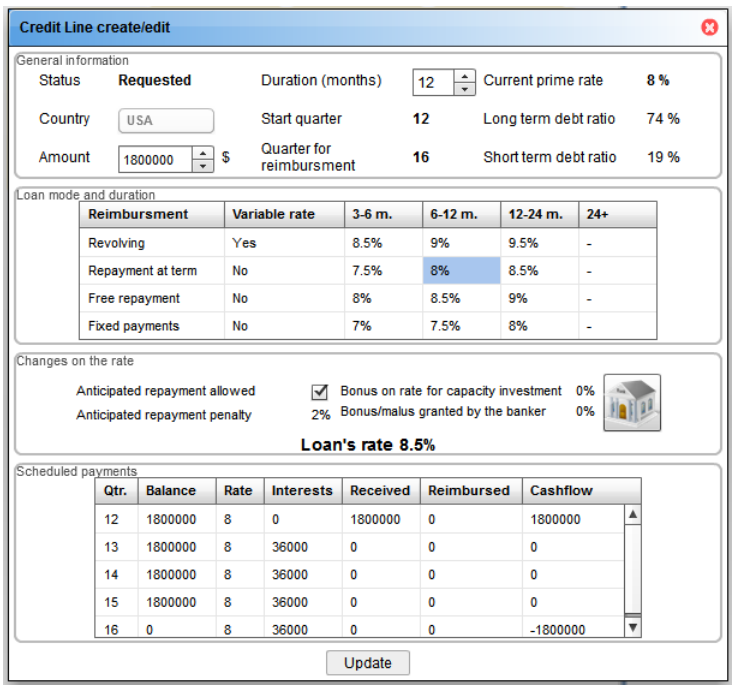
When negotiating another credit line with the banker, he could impose a time limit for the credit line.
The financial charges coming from the loans (Short term and long term) are paid in the next quarter.
At start of the game, your credit line is (6 000 000$) in (USA), without time limit. Beyond this credit line, you must negotiate other **credit lines** with the banker.

- If the "Finance" module is active : you will have to choose between **four types of credits** :

1. "**revolving**": You can, at each quarter, execute all the moves, reimbursement or money calls while the total net result of the move remains inside the allowed amount. Then no negotiation is needed since you stay inside this credit allowance. Rate of loan will be variable, varying with market prime rate
2. "**Repayment at term**" : you get the whole amount of loan in credit opening quarter. This amount will have to be reimbursed in the quarter following the credit quarter limit. Nevertheless, paying a slightly higher rate, you could get the right for early reimbursement, partial or total. Then the reimbursement will be irreversible.
3. "**Free repayment**": free but irreversible, you will get the total amount while opening the credit, the last reimbursement for the balance being due in the quarter following the end of the credit. Partial reimbursements are possible without penalty
4. "**Fixed payments**": the reimbursement and the interest are combined and paid at every month (by quarter …). Reimbursement at the beginning is smaller and interest is higher. Along partial reimbursement, the interest will decrease in parallel with the balance due.

The **loans rates** are granted to the companies when the credit line is open. They will be calculated according to several parameters:

- The prime rate in the market where the loan is granted (as displayed in "marketing report"). You select the country where you want to get the loan.
- The total debts ratio of this company (short and long term loans combined Vs equity)
- Credit duration
- Type of reimbursement



When the applied rate is a **variable rate**, it will vary with the quarter prime rate, the difference between the first rate granted and the prime rate remaining constant.

If it is a **fix rate**, it will remain constant and it will not be possible to renegotiate the rate during the credit line duration. Nevertheless, it could be possible to close the credit line, in order to negotiate a new credit, but with payment of penalty for early closing of the previous credit.

If the credit is negotiated during a quarter when you decide a significant capacity investment, you will get a loan rate bonus.

According to the quality of the project file presented to the banker, he could decide to grant you with a rate bonus but it could also impose a penalty if he thinks that the risk is too high.
k
In addition, if your short term debt ratio is exceeding a defined threshold, the credit duration could be limited. In this case the proposed rate will appear on the menu into brackets and this option will be disabled.

In all cases, to get a new credit line, or to renew a credit arriving at end, you will have to negotiate it with the banker, presenting a file to justify your request and the planned usage of the borrowed money.

In case of refusal, on the whole credit request or on a partial amount, your long term debts will be reduced accordingly, and will generate additional short term debts.

The credit planned is created in "**Requested**" status. When signed by the banker the status will be switched to "**Granted**". A credit remaining in "requested" status and not approved will be discarded at quarterly processing of decisions.

When the "finance" module is active and when the type of credit allows you to do it, you decide, quarter by quarter, the level of loan you use on each credit line. This is a way to optimize the credit cost according to the granted rates. If the "finance" module is inactive, the credit amount is negotiated globally.

If your capacity of running into debts is increasing, the proposed rates for new credit will take you results into account. Then you can use this leverage effect as an element of your financing policy to improve your competitive position.

In ALL cases the value entered in credit and loans represent the TOTAL used and not the quarterly variation.

ALL FINANCIAL CHARGES LINKED TO SHORT TERM AND LONG TERM LOANS ARE DUE IN THE QUARTER FOLLOWING THE QUARTER WHERE THE LOAN HAS BEEN USED.

(Except for reimbursement with a constant monthly fee)

4. Short term loans

You will have to control your treasury level. A high treasury level is a high amount of sleeping money...

If the treasury is insufficient, the model will compute automatically the amount of short term loans needed to avoid having a negative treasury.

These short term loans will lead to financial charges, well above the regular loans and paid in the next quarter.

A good financial planning, using the simulation tool and a spreadsheet will help you to optimize your treasury level.

5. Financial investments

If you have unemployed treasury, you can make financial investments, at a rate generally 1.5% below the local prime rate. The financial income related to these investments is credited to the next quarter results.

The rates can vary from one to another country and for the different quarter. A good survey will allow you to take advantage of some opportunities.

6. Tax on company's income

The tax on company income is currently:

- 48% in USA
- 40% in France
- 30% in Morocco

This rate is applied on net income before tax. The tax is due in each quarter generating the income and therefore will be reported as a debt in the **Balance sheet** but the reimbursement will be made on the next quarter.

A negative income will obviously generate no tax but gives tax credit!

7. Company's shares

A company can **release new shares** to finance its activity.
It will be also possible to **buy back their own shares** but all those moves will be submitted to the following rules.

- a fee of 5% of the total value of the operation is taken as a commission
- the quarter amount of shares trade is limited. This limit can reflect the market capacity to absorb your new shares or to offer the amount of shares you want to buy back.
- Releasing new shares is limited by the authorization given by your board. To go beyond, you need a approval by the "SEC"
- the purchase or sale of shares is done at current stock value (in last quarter), although the nominal value of the share is $20

8. Dividends

You decide, at each quarter, to distribute or not, a dividend per share.

The model evaluates the stock value of your share. A constant dividend policy will obviously influence the stock market reaction. An irregular dividend distribution will penalize the stock value. But the dividends are not the only element that will influence the market behaviour.

9. Currency rate

In case of devaluation or revaluation of a local currency, your net situation will be affected. Your inventory can be re-evaluated and for the headquarters the currency change effect will be accounted in the reports as « **EXCHANGE RATE CHANGE** ».

10. The Stock Market

At each end of each quarter, the simulation model will evaluate the stock exchange reaction linked to your company results and decisions.

In United States, the stock exchange market follows closely your quarterly results. A good trend in your results, for a long time, will induce a regular share demand. A dividend policy will also keep up the share value but this element is not the only one taken into account. Your shareholders will also be sensitive to changes in the net book value of your company.

According to your planned strategy, mainly if you put a priority on the market value of your company, you can influence the stock exchange behaviour, releasing new shares or buying back your own shares.

You will find information in the Game data base to perform stock market analysis.

D. QUALITY MANAGEMENT

Reminder : **USING THE QUALITY MODULE IS OPTIONAL** !

Quality Management is one of the essential dimensions of modern industrial activities. The ***i* - Business Game** illustrates the main notions related to ISO 9000 and shows the relations between your Quality results, the Marketing policy and financial results.

For each quarter, your Quality decisions will concern three areas:

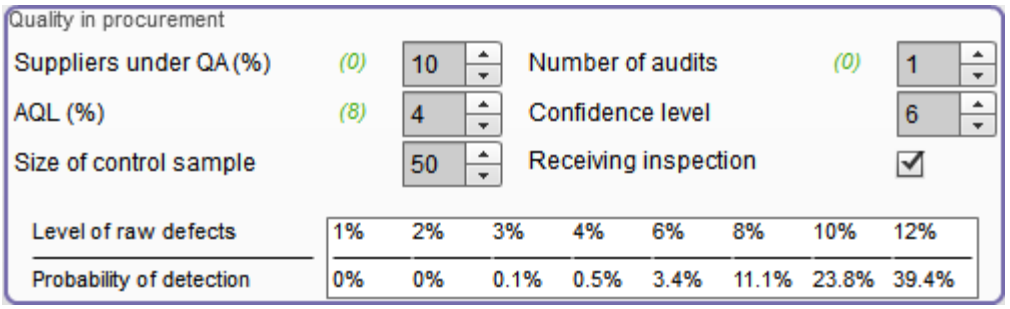
- quality of **raw materials**
- quality in **manufacturing**
- **final quality** acceptance

You can also decide to prepare and apply for an ISO 9000 certification, defining your "Quality Plan" and proving its respect through regular "ISO audits".

This certification process has a cost but it could lead to a positive impact on your marketing performance and on your clients' fidelity.

1. Raw materials quality

The raw materials quality will first depend upon the quality level you request from your suppliers. It is measured by the **AQL** (Acceptable Quality Level). That is the « worst quality level » you can accept. Therefore that is the percentage of defective parts that would be detected by a sampling process at receiving. This AQL is normally guaranteed by your supplier. The price of the purchased materials will be higher when the AQL will be low.

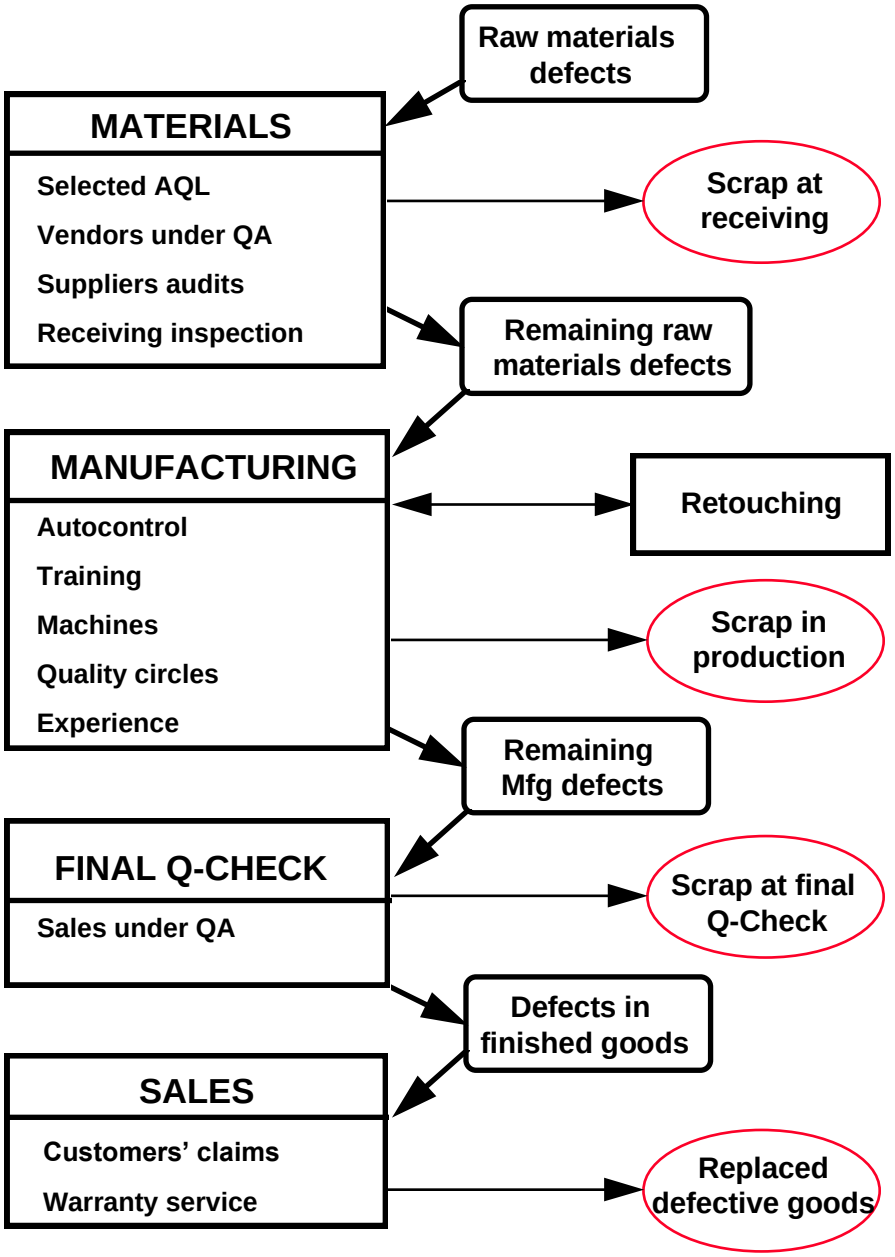


If you select a specific AQL level, you can secure the regularity of supplies quality through a **QUALITY ASSURANCE** policy, with your supplier. It must be joined width a strong preliminary qualification from the supplier and must be validated periodically through QUALITY AUDITS. Quality Assurance will guarantee a better respect of requested quality level.

Whatever is the selected AQL, some defective parts will still be delivered. You can decide to set-up a **RECEIVING INSPECTION** with a sampling procedure. This is a destructive control.

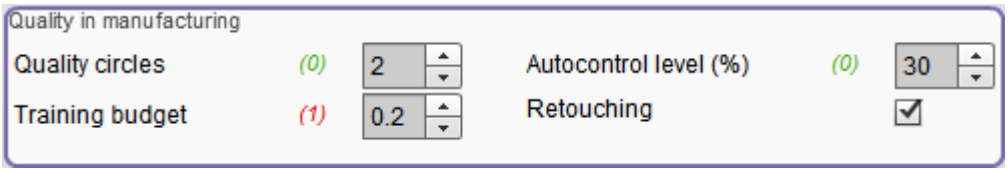
You will have to decide the sample lot size (the size of the received materials' order is imposed (2000 units)). A high sample quantity will lead to a higher reliability of the inspection but will cost a lot due to scrapped materials in control. Sixteen is considered to be the minimum sample size and that the lot size must be at least 10 times that of the sample.
A too small lot size would be statistically unacceptable. The used sampling method explained in chapter VI, is based on the Poisson method. You will select the requested confidence level, which is the amount of defects detected in a sample leading to rejection of the whole received lot.

Accepting the use of defective parts in production will lead to scrap in manufacturing process, scrap at final acceptance and will finally lead to defects in finished goods when the "filters" are insufficient to avoid defects and therefore clients claims and replacement of defective goods under the warranty clause. That will also affect your market share.


Raw materials defects
MATERIALS
Selected AQL
Vendors under QA
Suppliers audits
Receiving inspection
Scrap at receiving
Remaining raw materials defects
MANUFACTURING
Autocontrol
Training
Machines
Quality circles
Experience
Retouching
Scrap in production
Remaining Mfg defects
FINAL Q-CHECK
Sales under QA
Scrap at final Q-Check
Defects in finished goods
SALES
Customers' claims
Warranty service
Replaced defective goods

2. Quality in manufacturing

It will be obviously influenced by your R&D effort which will improve the product but also the manufacturing process where the search for quality is embedded in the design process. The expertise of your personnel, their motivation and your training effort will also influence quality.



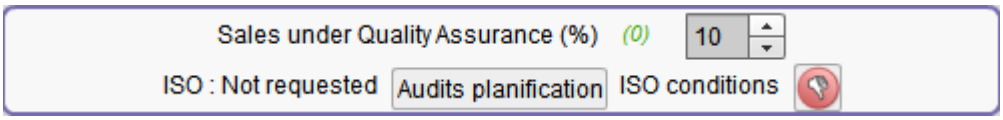
You can act directly or indirectly on the quality resulting from your manufacturing process. If you involve the production personnel in **QUALITY CIRCLES** you will solve some the arising problems and you will also make them aware of their own role in quality.

You can decide to organize **AUTOCONTROL** tasks by the people themselves on production line. These auto control, defined in the process routings can be applied or not to the whole production quantity. Defects detected at auto control can be partly recovered through retouching.

All those actions will lead to additional costs and workload thus you will have to plan the manpower on production line and quality staff accordingly.

3. Final Quality

You can submit a part of or all the finished goods quantity to Final Quality Check to work under **QUALITY ASSURANCE** recognized by your customer.

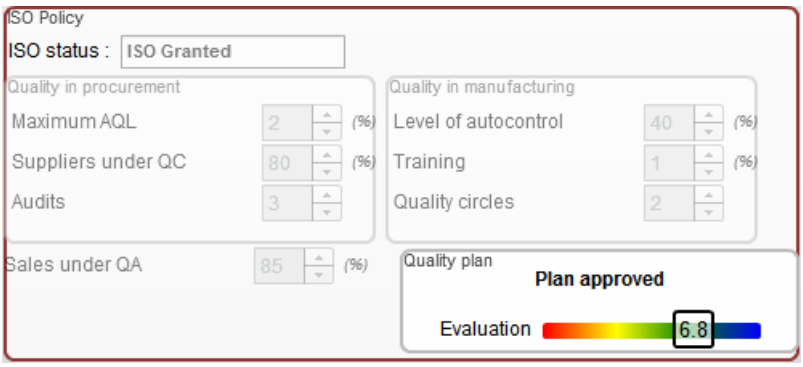


4. ISO 9000 Certification (optional)

You translate your Quality policy into all your decisions on raw materials quality, quality in manufacturing process, and final Q-check. They should be in coherence with your commercial objectives.

They should be also relevant with the time factor. Overcoming a Quality crisis or ensuring a continuous product quality implies different decisions. Roughly, the challenge is to reach a targeted quality level, to maintain it and to minimize the costs aiming to achieve it.

All the decisions on quality, planned in a "Quality Plan" can lead to a ISO 9000 certification assuming that you respect a minimum threshold on several criteria covered by the plan.



If the ISO module is enabled, and once you decide to go to ISO 9000, you will have to define your "**quality plan**" and have it validated.

This plan should be studied so that it leads you to a quality and cost consistent with your business strategy.

Once obtained the signature of the plan, if you modify it, it will again need approval by the auditor, if you were already ISO 9000, (and pay ...).
You will need some time to prepare for your first certification (of about 6 months) and to perform a "Certification Audit".

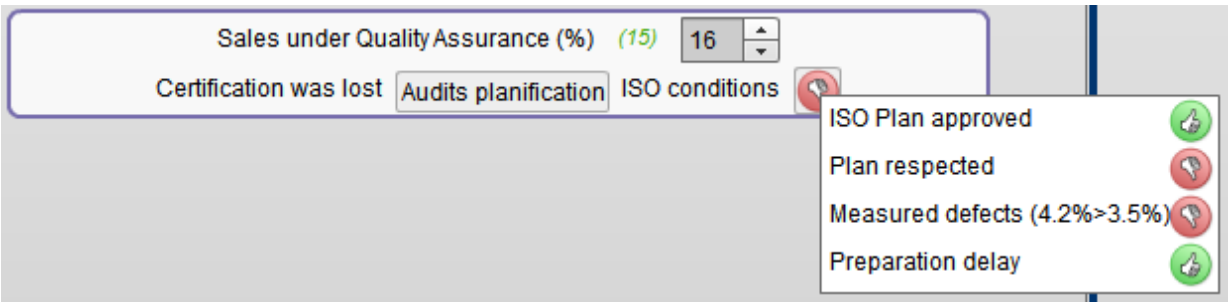
You will see the steps of certification appear in the "ISO status"

ISO not available	ISO 9000 module is not active in your session
ISO not decided	You have not started or you left the ISO approach
ISO started	You just decide to go to ISO 9000
ISO pla approval pending	Your quality plan is introduced and must be signed by the ISO auditor
ISO audit postponed	You are not ready and you have asked to delay the certification audit
ISO in progress	Lead time to prepare certification is not completed
ISO certification granted	Certification audit successful. Certification granted
ISO certification refused	During audit, certification has been refused
ISO certification lost	You were ISO 9000 certified but conditions are no more fulfilled

You record in your "Quality Plan" the minimum threshold for each decision as you think they should be maintained "permanently". If you cannot reach them immediately, i.e. due to a lack of resources, you disable the button "ISO". When possible you will reactivate it.

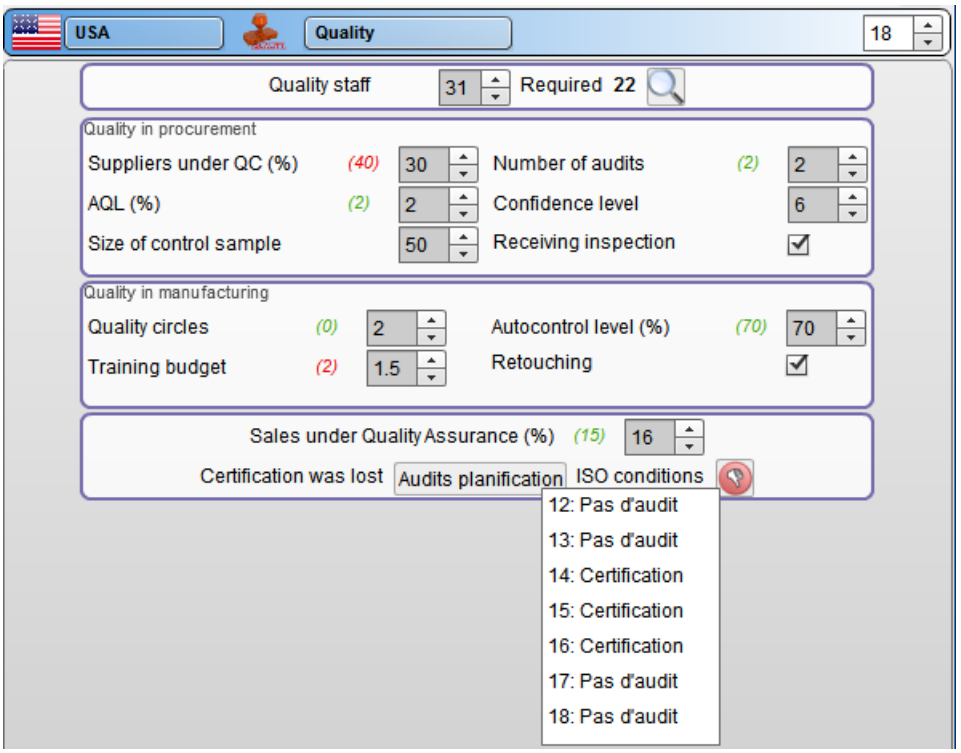
Another solution is to change these minimal values according to your current capacity to respect them. You have to know that the decisions themselves have an impact and not the simple fact to flag the ISO button as active! But every time you change the content of your Quality Plan, you will be obliged to get a new approval.

Your quality plan should be defined in coherence with your global strategy. It must respect a minimum efficiency threshold to be eligible for approval.



The first ISO Certification is granted through a "Certification Audit". This Audit will check if the conditions are respected:

- The preparation lead time is completed
- The Quality Plan is recorded, having an efficiency level suitable for certification and if requested has been "signed" by the game controller.
- The Quality Decisions respect the minimum threshold imposed by the Quality Plan
- The level of defects in finished goods produced in last quarter is below the acceptable threshold.



If the conditions are respected, you will get your "ISO 9000 Certificate". It will remain valid for one year. At the end of this year, you will have to realize a "Recertification Audit" that will check if the ISO conditions are still respected or if you have changed the conditions of your Quality Plan.

If you lose your certification, you will have to go through this "Recertification Audit", without waiting the yearly cycle.

The audit has a cost corresponding to the work and to the certification commitment given by the certification authority. These costs will be accounted in your "operating results" in the line "Miscellaneous". They will also be included in the Quality Costs":

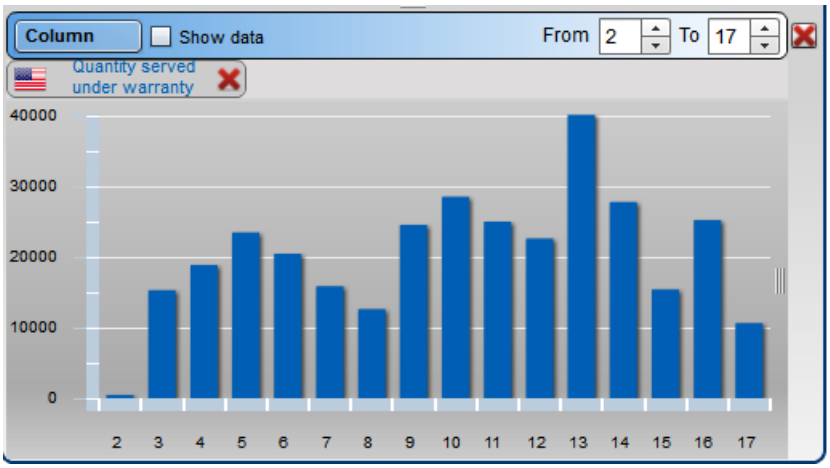
- (15 000$) for a "Certification Audit"
- (5 000$) for a "Recertification Audit"

Beyond the costs related to the audits, you will have to dedicate people to prepare the certification (3 people) and to maintain it (1 people).

The positive impacts of an "ISO 9000 Certification" are perceived when the Certification is granted up to the time it is lost

5. Warranty

If you adopt a low quality range for your products or if your planned quality decisions do not insure the requested filters, you will have defective products in the sold quantity. Part of these defects will be detected by your customers who will claim for replacement under your warranty policy. Then you will lose sales quantity, you will have to pay the charges related to a larger customers service staff and to the replaced goods. Indirectly you will also pay for a poor image in your customers' opinion.



6. Figures on Quality

You use around 30 different suppliers for your raw materials. The received lot size is 2000 units. You need one material unit per unit of finished goods.

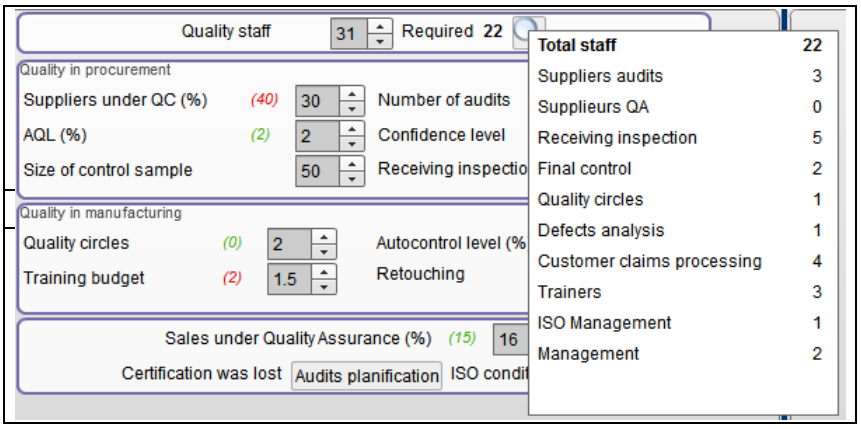
A Quality Circle group is on average 10 people. A Quality Circle spends 10 hours per quarter to work.

You need (1/100) hour per unit to perform the auto control and the retouching time is 60% of normal manufacturing time.

Please read the Quality Report to follow the detected defects at several levels and to plan your Quality strategy.

The financial and commercial results will reflect the effects of your quality results on your company performance.

In the Quality Report the COQ (Cost of Quality) will point out the charges related to tasks decided to improve the quality and the CNQ (Cost of Non Quality) resulting from defects, scraps and warranty. You will have to balance COQ and CNQ to optimize the return of your actions. Sum of COQ & CNQ is TQC : Total Quality Cost.



The computer model will check if the planned Quality staff is sufficient to carry out the planned quality actions.

If your new decisions on the quality lead to a positive or negative variation of quality staff, too large to be realized within one quarter, you could be induced to spread them out over time.

E. MANAGING HUMAN RESOURCES

Reminder : THIS MODULE IS OPTIONALLY USED.

Your Personnel strategy will follow four axis:

- Working time
- Compensation policy
- Social policy
- Employment

1. Working time

Respecting legal regulations, which can change, you will decide the WEEKLY LABOUR TIME and the number of weeks of YEARLY VACATIONS. Those factors, combined with absenteeism, strikes, overtime, training hours, will allow you to plan the needed manpower to cover your production.

2. Compensation policy

You will decide on the wages evolution either through **GENERAL INCREASE** or **MERIT INCREASE** allocated to a part of the personnel.

You can also insure your personnel's revenues and motivation through **BONUSES** or **PROFIT SHARING**.

The basic salary and the different bonuses are not the only element of the salary cost: you have also to pay social charges (28.5%).

The salary cost is also influenced by the age profile of your personnel. You will follow it through the "Aging profile" showing the effects of your recruiting policy, retirements or layoffs.

In the Social report you will see the social environment evolution, as INFLATION RATE, PRICE INDEX, AVERAGE SALARIES, AVERAGE LABOUR TIME, AVERAGE TURNOVER... Use those indicators to evaluate your own personnel's revenue position.

This will allow you to plan your company policy and make it a competitive tool

3. Social policy

You can allocate an amount defined as a percentage of the salary charges to SOCIAL EXPENSES (sport, entertainment, solidarity ...) and you will decide on the TRAINING effort as a percentage of the salary. This will influence motivation but also quality and productivity.

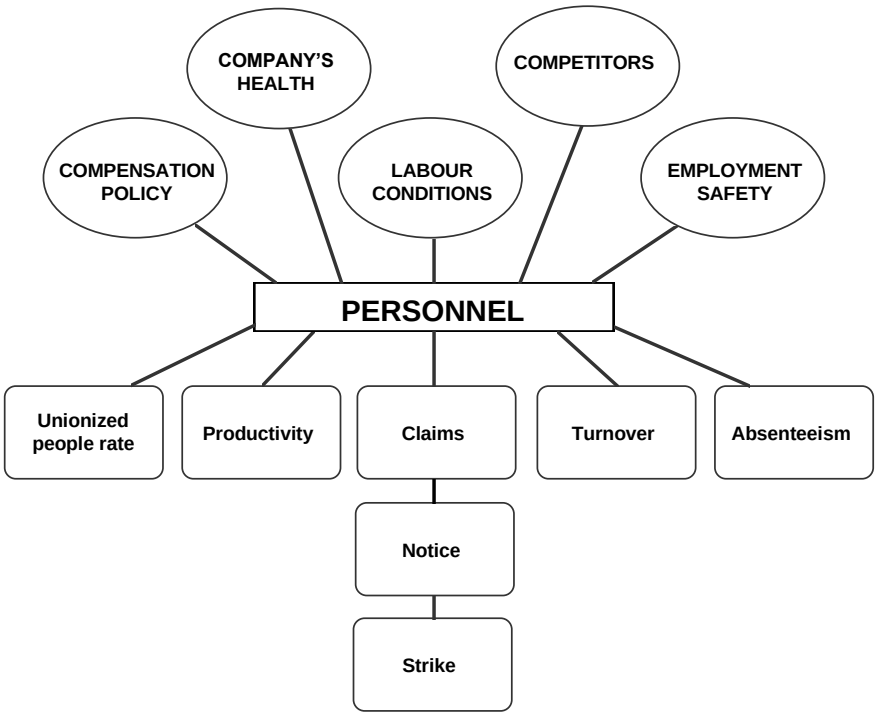
4. Employment policy

You have read before that you can decide, within the limits of regulations and labour market capacity, the requested manpower to produce the planned quantity and for your Quality staff.

The headcount evolution will also vary with retirements and resignations. A bad social climate in a "bear" labour market will increase the TURNOVER you can compensate by recruiting if it is possible. In any case it will be expensive.

If you need to decrease the headcount beyond the "natural departures", you can use an EARLY RETIREMENT policy(if you use people who meet the age conditions of 55).
You can also try to put emphasis VOLUNTARY DEPARTURES giving some financial incentives.
Finally you will have to decide LAYOFFS which meet the possible regulations' constraints. You also can to compensate or not the natural departures as retirement or resignation.

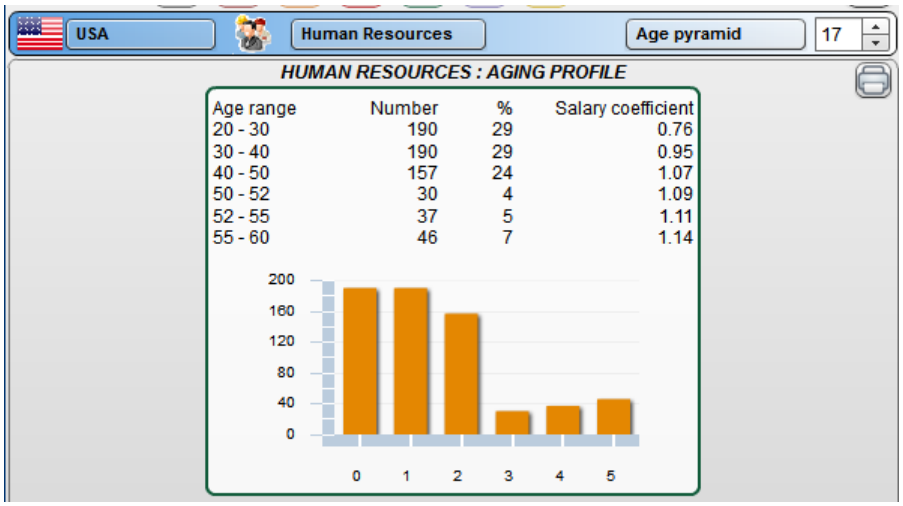
All those headcount decreases are expensive and a better planning and a motivating policy would help you avoid to use these extreme decisions.



The overall social policy will be translated in a social climate, motivation, unionized personnel, unions' influence, absenteeism, turnover and over a threshold, to personnel claims and strikes.

The personnel claims can be global or more focused on employment security, salary policy, or working conditions. Working in a healthy company which invests, which respect both shareholders and personnel interests, will improve the climate and indirectly your results.

During every quarter The Social Report, the pyramid of age and the report on CLAIMS will inform you about your personnel's behaviour.



Age range	Number	%	Salary coefficient
20 - 30	190	29	0.76
30 - 40	190	29	0.95
40 - 50	157	24	1.07
50 - 52	30	4	1.09
52 - 55	37	5	1.11
55 - 60	46	7	1.14

As for other disciplines, analyze the environment, plan your policy and then decide.

HUMAN RESOURCES : SOCIAL REPORT

PERSONNEL MOVES		**SOCIAL CLIMATE**	
Manpower in quarter Q-1	625	% people unionized	27.00 %
Manpower in quarter Q	650	Number of personnel claims	6
Retirements	3	Days of strike	3
Resignations	0	Number of strikers	245
Self-willed departures	0	Man days lost on strike	735
Early retirements	0	Personnel turnover	0.00 %
Layoffs	0	Absenteeism	2.94 %
People hired	28	Purchasing power	-9.09 %
Retirements planned in Q+1	3		
Possible early retirements	44	**ENVIRONMENT**	
		Quarterly inflation	0.80 %
INCOME		Prices index	105.50
Basic salary	7.25 $	Tax on personnel income	14.00 %
Social charges rate	28.50 %	Average income	13196 $
Average cost of salary	8.87 $	Average salary	7.44 $
Profit sharing	0 $	Average turnover	2.40 %
Average yearly income	12998 $	Average labour week	37.50 h
Gross evolution of income	-16.16 %	Average vacations (weeks)	4.17
Yearly inflation	3.53 %	Unit cost hiring	3000 $
Net change	-19.69 %	Unit cost layoff	500 $
COMPENSATION EXPENSES			
Salaries and charges	3299475 $	Cost of hiring people	84000 $
Profit sharing cost	0 $	Self-willed departures	0
Bonus	0	Layoffs cost	0 $
Social expenses	26836 $	Total cost of personnel	3278068 $
Cost of early retirements	0		

IV. THE GAME'S REPORTS

1. AVALAIBLE REPORTS

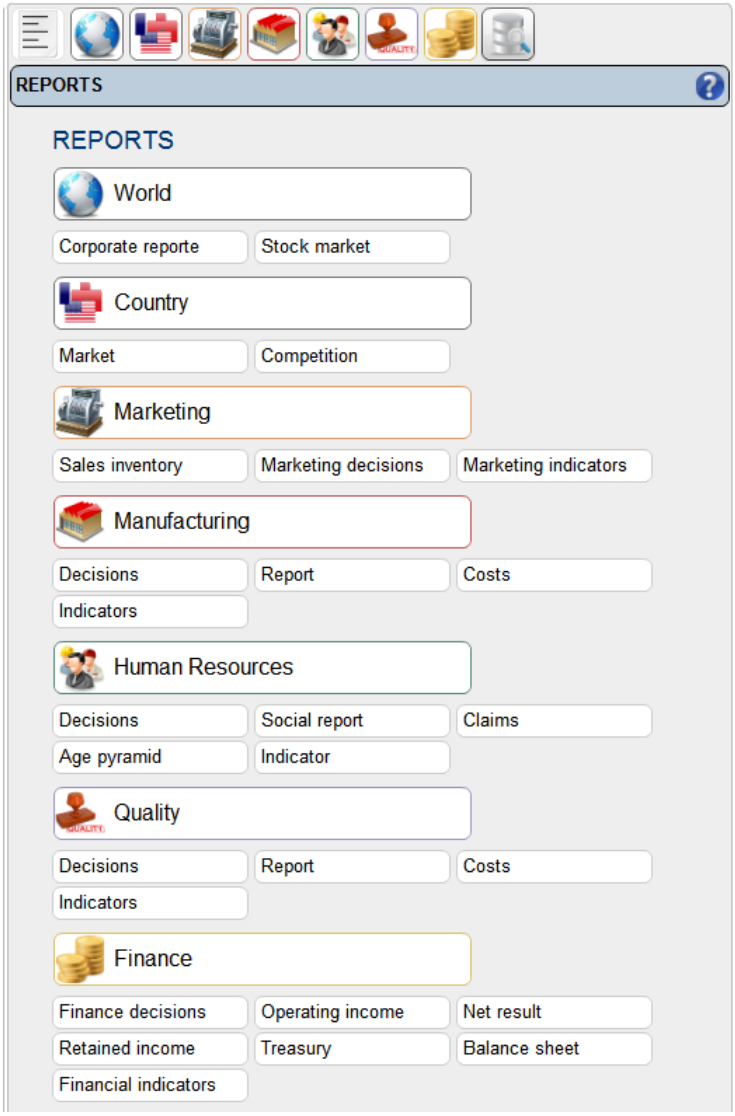
You will have various reports, either dedicated to your organization, or common to different teams.

These reports can be viewed on screen or printed at your request.

The form of reports on screen and printed reports is similar.

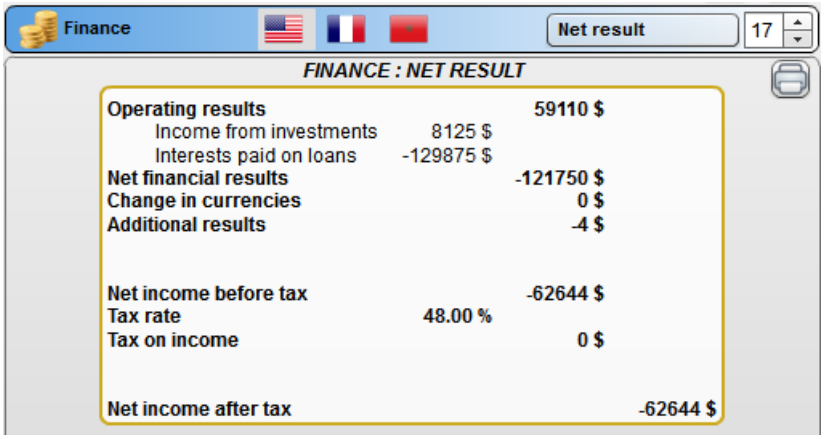
This chapter therefore explains the content of these reports, whatever the manner of obtaining them. Reports, at the corporate level or for subsidiaries, are available from the two quarters 2 to the last quarter already played so early in the game the quarter 11.

After simulation calculation, and reports on simulated quarters are available but they are labelled "SIMULATION".



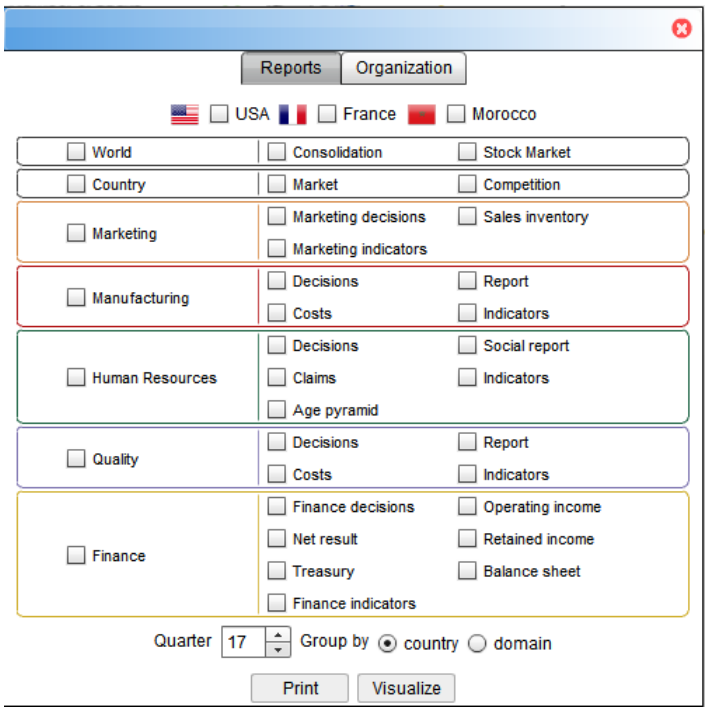
2. PRINTED REPORTS

By using the "Printer" button contained in the reports displayed on the screen, you open a "web page" that contains the report. Then use the print function of browser to print this page.

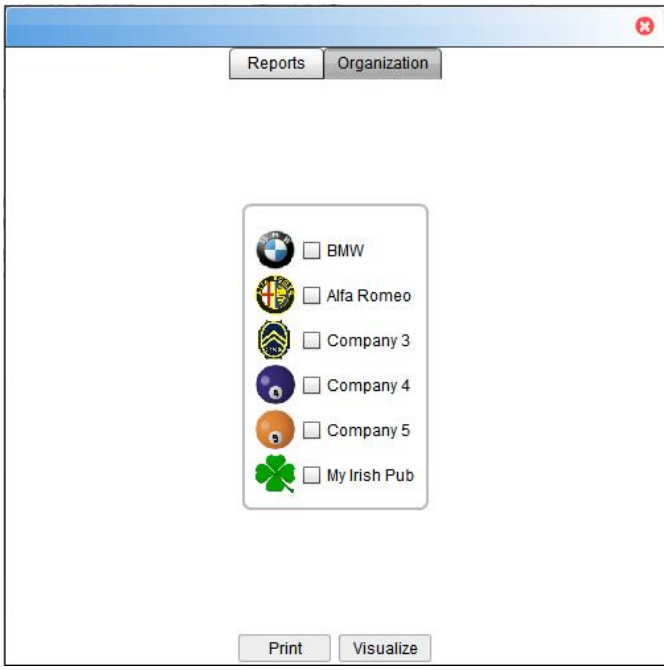


If you want to get multiple printouts:
- For common reports
- For company reports
- For organization charts

Display the printout selection menu in "Tools / Print "

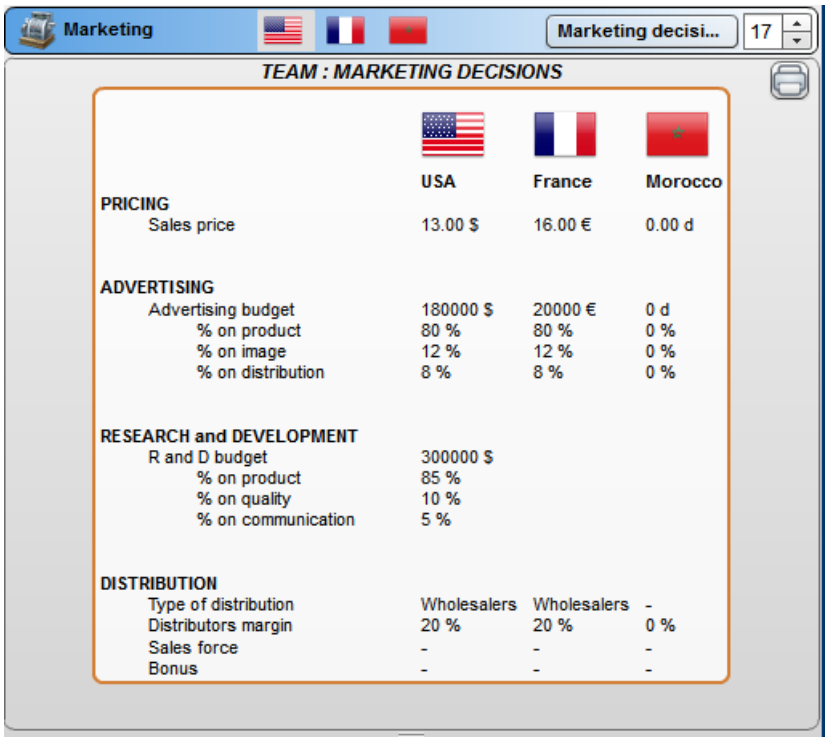


- Select the tab to choose the type of printout
  - Reports
    - Select one or several country (ies)
    - Select one or several report(s) to be printed. You can select or deselect all repots in one domain.
    - Select the quarters range to be printed
    - Select the sorting criterion
    - Visualize the reports or launch the printing
  - Organization charts
    - Select one or several company(ies) to display or print their organization chart. This function is available starting in quarter 13



B. MARKETING REPORTS

1. Report on « Marketing » decisions



Marketing | Marketing decisi... | 17

TEAM : MARKETING DECISIONS

	USA	France	Morocco
PRICING			
Sales price	13.00 $	16.00 €	0.00 d
ADVERTISING			
Advertising budget	180000 $	20000 €	0 d
% on product	80 %	80 %	0 %
% on image	12 %	12 %	0 %
% on distribution	8 %	8 %	0 %
RESEARCH and DEVELOPMENT			
R and D budget	300000 $		
% on product	85 %		
% on quality	10 %		
% on communication	5 %		
DISTRIBUTION			
Type of distribution	Wholesalers	Wholesalers	-
Distributors margin	20 %	20 %	0 %
Sales force	-	-	-
Bonus	-	-	-

SALES PRICE

Sale price decided for each market, in local currency. To be present on a market you must give a sales price value and offer goods available for sale.

ADVERTISING

Advertising budget of the quarter in each country, in local currency.

You see that the whole publicity budget has been shared between :

- product promotion
- company image
- support to distribution

RESEARCH & DEVELOPMENT

R&D budget, charged only to headquarters, but influencing all markets.

The total R&D budget has been allocated to :

- product improvement (specifications, cost, product positioning)
- quality improvement (intrinsic quality and process improvement)
- publicity communication efficiency to get a better effect of publicity while keeping a stable budget

DISTRIBUTION NETWORK

Distribution network type:

- Distributors (wholesalers)
- Exclusive agents
- Privately owned network

For the wholesalers or exclusive agents you know the % of distributor margin which was given.

For the own networks, you see the number of salesmen and % of bonus on wages which are granted to them.

2. Sales & inventories

QUARTER'S CHANGES	QUANTITY	VALUE
Inventory at quarter's beginning	126499	879168 $
Entries of finished goods	451639	3138891 $
Quarter's sales	-552847	3842286 $
Quantity served under warranty	-25291	
Goods exported back to factory	-	
Inventory at quarter's end	0	0 $

AVAILABLE FOR NEXT QUARTER	QUANTITY	VALUE
Work in process	457493	3179576 $
Quantity reserved for warranty	-10665	
Goods imported back	0	
Available for sales	446828	3105454 $

All amounts in this report are valued at standard cost effective during the quarter. For foreign countries, the standard cost is adjusted by the current currency rate.

INVENTORY IN THE BEGINNING OF QUARTER (1)

This is the residue of unsold products in the previous quarter.

ENTRIES OF FINISHED GOODS (2)

This is the quantity produced (and exported) in the previous quarter. The sum of INVENTORY AT QUARTER'S BEGINNING and these ENTRIES OF FINISHED GOODS less the amount reserved for warranty service, represents the amount that was available for sale in the quarter shown, except when you have re-imported products.

QUARTER'S SALES (3)

Quantity sold in that market.

QUANTITY SERVED UNDER WARRANTY (4)

Amount returned to the client under the warranty policy. This quantity corresponds to the position (8) of the previous quarter but limited to quantity available for this guarantee.

RE-EXPORTED FINISHED GOODS (5)

It is, in a foreign subsidiary, the quantity picked from the stock to be returned to the headquarter.

INVENTORY AT QUARTER'S END (6)

Remaining in stock: (1) + (2) - (3) - (4) - (5)

WORK IN PROCESS (7)

Quantity produced (and exported) during the quarter that will be available for sale the next quarter.

QUANTITY RESERVED FOR WARRANTY (8)

Amount to be levied on PRIORITY from available inventory to replace defective products sold to customers.

GOODS IMPORTED BACK (9)

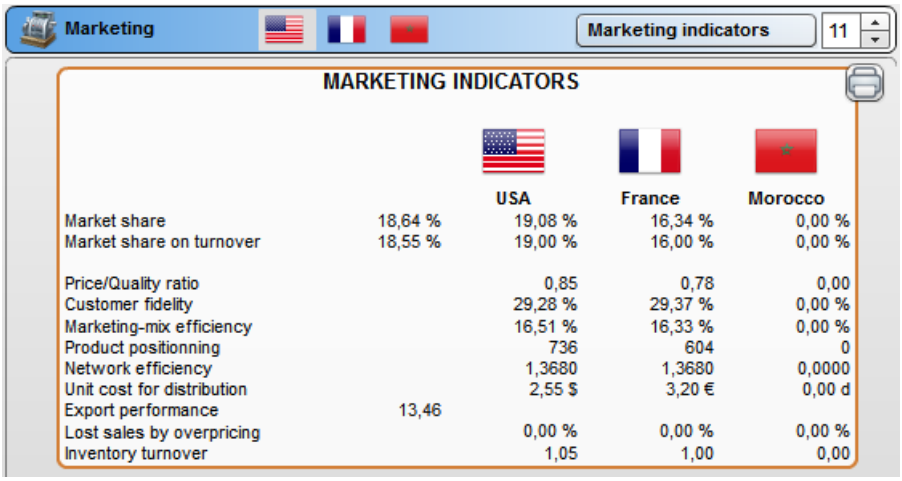
In the U.S., it is the quantity shipped by foreign affiliates.

AVAILABLE FOR SALE IN THE NEXT QUARTER (10)

is equal to (6) + (7) - (8) + (9)

When you define your "Sales Plan" to a simulation calculation, the expected sales will be limited to that quantity.

3. Marketing indicators



		USA	France	Morocco
Market share	18,64 %	19,08 %	16,34 %	0,00 %
Market share on turnover	18,55 %	19,00 %	16,00 %	0,00 %
Price/Quality ratio		0,85	0,78	0,00
Customer fidelity		29,28 %	29,37 %	0,00 %
Marketing-mix efficiency		16,51 %	16,33 %	0,00 %
Product positionning		736	604	0
Network efficiency		1,3680	1,3680	0,0000
Unit cost for distribution		2,55 $	3,20 €	0,00 d
Export performance	13,46			
Lost sales by overpricing		0,00 %	0,00 %	0,00 %
Inventory turnover		1,05	1,00	0,00

MARKET SHARE IN VOLUME

Market share globally and in each country, calculated on the basis of units sold

MARKET SHARE IN SALES TURNOVER

Market share globally and in each country, calculated on the basis of sales values

RATIO QUALITY / PRICE

This ratio is calculated by taking into account the price in the country and the level of defects in products sold. The higher the ratio, the more favourable it is.

CUSTOMERS' FIDELITY

Potentially, this is the % of repeat sales of the previous quarter. You must obviously have products available. Loyalty is influenced by

- Price stability
- The level of defects
- The stability of quality / price ratio

- ISO certification
- The stability of the distribution

PERFORMANCE MARKETING-MIX

The model calculates the % representing the company's potential to take market share in the occasional market. That corresponds to the market not covered by the renewed sales. Performance varies with the position of the company Vs competitors on various criteria:

- The selling price
- Advertising
- R & D
- The quality
- The quality / price ratio
- The effectiveness of the distribution
- ISO 9000 certification

VALUE OF THE PRODUCT PERCEIVED

This indicator is calculated on the basis of the current and persistent R & D, quality and company image

EFFICIENCY OF DISTRIBUTION

This indicator combines the effect of network type, maturity, and sales incentives such as margin for distributors, sales force, bonus ...

COST DISTRIBUTION PER UNIT SOLD

Distribution cost in local currency divided by the volume of sales

EXPORT PERFORMANCE

Indicator measuring the sales effectiveness in foreign markets

% OF SALES LOST DUE TO OVERPRICING

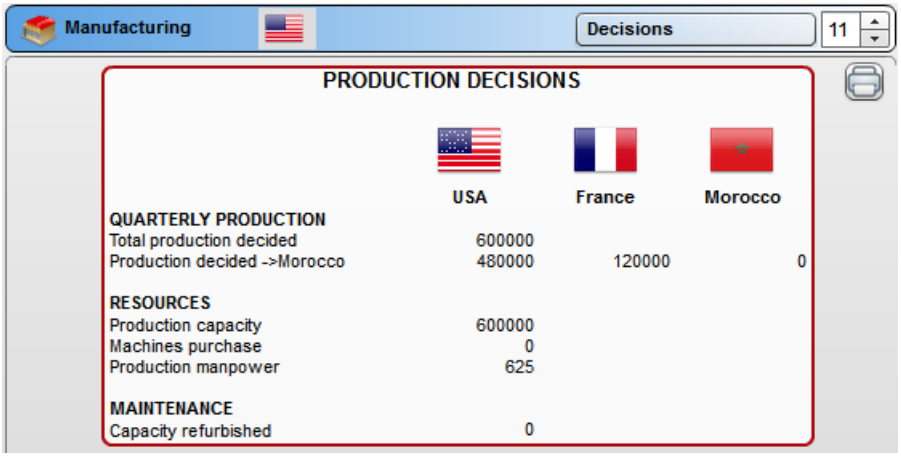
If your selling price in the country exceeds a threshold that the client cannot accept, you may lose some sales as your competitive performance you would have permitted.

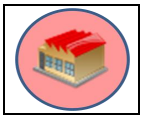
INVENTORY TURNOVER

Inventory available for sale divided by sales for the quarter. A turnover of one means that you have sold everything. With a turnover of 2, you had two times too many products. Be aware that a turnover of 1 can hide lost of sales !

C. MANUFACTURING REPORT

1. Report on manufacturing decisions





QUARTERLY PRODUCTION

TOTAL LAUNCHED

Quarter's production decided, expressed in units.

PRODUCTION BY COUNTRY

Quantities launched for each country

RESOURCES

INSTALLED CAPACITY

This is the total installed capacity that can be used for the production of this quarter. This value cannot be reduced.

CAPACITY INVESTMENT

It is the capacity investment decision in this quarter. This additional capacity, expressed in units could be used in the following quarter only

PRODUCTION STAFF

This is the direct manpower available for production of the current quarter.

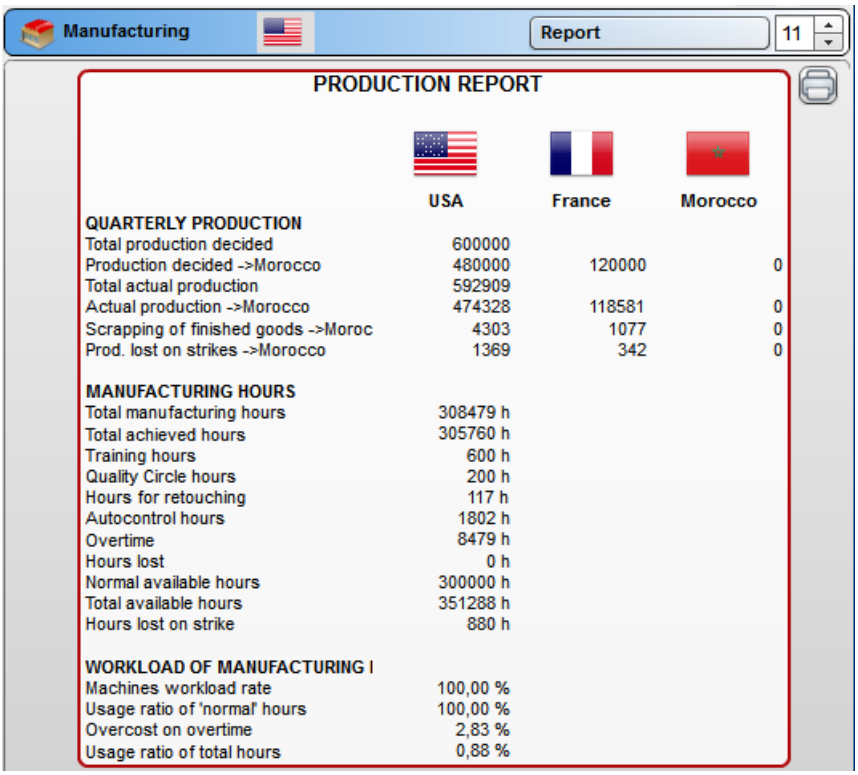
In the game with the module PERSONNEL you must also take into account the social events to find the necessary workforce (see production report). Department quality staff is not included in this number

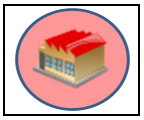
MAINTENANCE

CAPACITY REFURBISHED

It is the amount of machine capacity units being renovated in the quarter. The age is reset to zero.

2. Manufacturing report





QUARTERLY PRODUCTION

TOTAL LAUNCHED

This is the total amount determined for all countries.

QUANTITY LAUNCHED BY COUNTRY

This is the amount decided for each country, to be available for sale in next quarter.

ACTUAL PRODUCTION

This is the total of finished goods completed for all countries.

PRODUCED BY COUNTRY

Number of "successful" finished goods for the domestic market and export. These quantities will be available for sale in the next quarter, taking into account the amount reserved for warranty service. See the report "SALES & INVENTORY". The difference between the amounts realized and decided corresponds to scrap and strikes.

QUANTITY SCRAPPED

This is the number of units launched in production that have been refused in the final inspection.

QUANTITY LOST ON STRIKE

This is the number of units launched in production that could not be produced due to strike action.

MANUFACTURING HOURS

TOTAL ACTUAL HOURS

This is the sum of hours intended to produce, train production staff, devoted to participation in Quality Circles & to retouch defects found on the autocontrol and autocontrol time itself.

PRODUCTION

Sum of quantities produced in each country multiplied by the unit time required to manufacture the product in each country. This takes into account the evolution of productivity linked to the average age of machines and the impact of training and working climate within the company (*). The unit time also varies with the volumes produced.

TRAINING

Number of man / hours spent on training

QUALITY CIRCLES

Number of man / hours devoted to participation in "Quality Circles"

RETOUCHING

Number of man / hours devoted to the correction of defects found during the self.

AUTOCONTROL

Number of man / hours devoted by a worker to control its own production

OVERTIME

Production hours not covered by the normal work week (normally 40h)

HOURS LOST BY LACK OF PRODUCTION

If the quantities produced can give work to the entire workforce.

NORMAL HOURS AVAILABLE

These are the hours of work, within the quarter, given the manpower and the work week without overtime.

TOTAL HOURS AVAILABLE

These are the hours of work possible including the maximum number of overtime hours.

HOURS LOST ON STRIKE (*)

These are the times corresponding to the number of strike days times the number of strikers

MANUFACTURING RESOURCES WORKLOAD

MACHINES WORKLOAD RATE

% of production capacity used during this quarter.

MANPOWER WORKLOAD RATE

% of the available labor hours used in this quarter

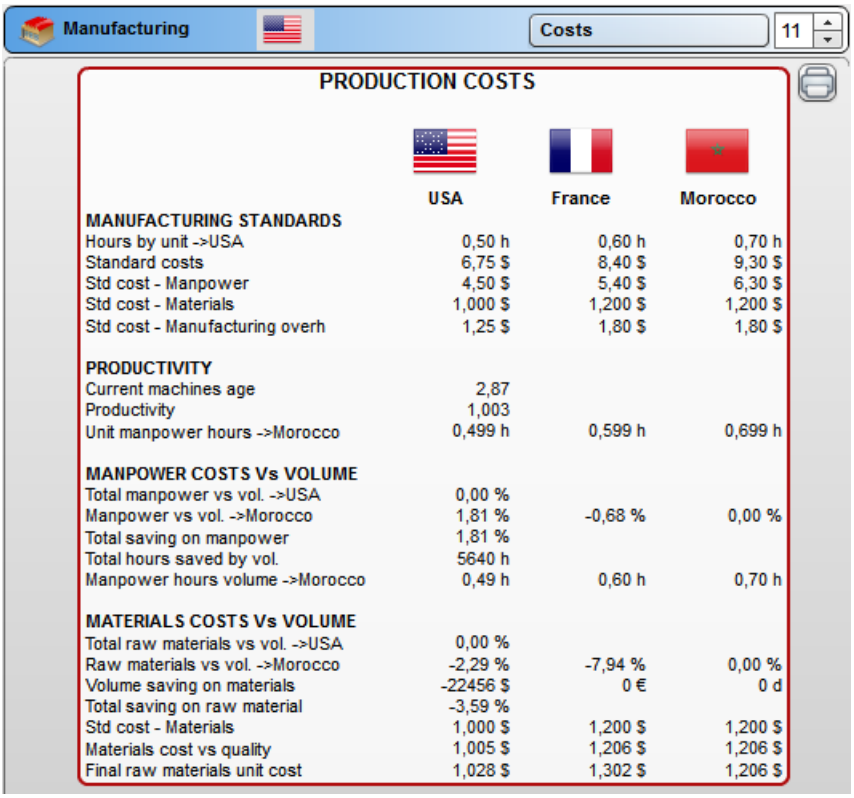
% OF OVERTIME

% Overtime hours compared to "normal"

USAGE RATES Vs MAXIMUM

% of workload Vs available labour hours in normal mode and overtime

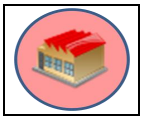
3. Manufacturing costs



Manufacturing | Costs | 11

PRODUCTION COSTS

	USA	France	Morocco
MANUFACTURING STANDARDS			
Hours by unit ->USA	0,50 h	0,60 h	0,70 h
Standard costs	6,75 $	8,40 $	9,30 $
Std cost - Manpower	4,50 $	5,40 $	6,30 $
Std cost - Materials	1,000 $	1,200 $	1,200 $
Std cost - Manufacturing overh	1,25 $	1,80 $	1,80 $
PRODUCTIVITY			
Current machines age	2,87		
Productivity	1,003		
Unit manpower hours ->Morocco	0,499 h	0,599 h	0,699 h
MANPOWER COSTS Vs VOLUME			
Total manpower vs vol. ->USA	0,00 %		
Manpower vs vol. ->Morocco	1,81 %	-0,68 %	0,00 %
Total saving on manpower	1,81 %		
Total hours saved by vol.	5640 h		
Manpower hours volume ->Morocco	0,49 h	0,60 h	0,70 h
MATERIALS COSTS Vs VOLUME			
Total raw materials vs vol. ->USA	0,00 %		
Raw materials vs vol. ->Morocco	-2,29 %	-7,94 %	0,00 %
Volume saving on materials	-22456 $	0 €	0 d
Total saving on raw material	-3,59 %		
Std cost - Materials	1,000 $	1,200 $	1,200 $
Materials cost vs quality	1,005 $	1,206 $	1,206 $
Final raw materials unit cost	1,028 $	1,302 $	1,206 $



MANUFACTURING STANDARDS

HOURS PLANNED PER PRODUCED UNIT

Working time planned to be spent by direct people to produce one unit intended for each market.
The displayed value is the standard value but can be influenced by other factors as training or motivation and volume, but these additional influences are not reported in these figures.

STANDARD COST

Working time planned to be spent by direct people to produce one unit intended for each market.
The displayed value is the standard value but can be influenced by other factors as training or motivation and volume, but these additional influences are not reported in these figures.

Standard cost manpower

Manpower cost included in standard cost.

STANDARD COST MATERIALS

Raw materials cost included in standard cost

STANDARD COST OVERHEAD

Manufacturing overhead included in standard cost (management, energy, amortization …)

PRODUCTIVITY			
Average machines age	4.37		
Productivity ratio	1.044		
Actual hours by unit	0.531 h	0.637 h	0.743 h

PRODUCTIVITY:

AVERAGE MACHINES AGE

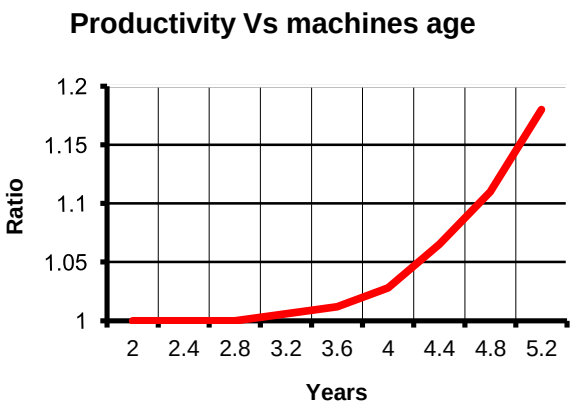
It is the average age of all the machine shop equipment, in year and fraction of year. You can influence it through investment in capacity and refurbishing plan

PRODUCTIVITY RATIO

Manufacturing overhead included in standard cost

ACTUAL HOURS BY UNIT

Working time spent by direct people to produce one unit intended for each market, taking into account the machine productivity. The productivity factor only affects the manpower required but not the machine capacity. Beyond this productivity effect actual hours will be also influenced by volumes



MANPOWER COSTS Vs VOLUMES :

MANPOWER COSTS Vs VOLUME			
Saving due to total volume	-0.07 %		
Saving due to volume on country	1.53 %	-0.66 %	0.00 %
Total hours saved	4322 h		
Saving(+) or overcost(-)	1.33 %		
Final Manpower unit time	0.52 h	0.64 h	0.74 h

SAVING DUE TO TOTAL MANUFACTURING VOLUME

If positive, that is the percentage of saving on manpower time, thanks to total volume produced in quarter, all countries combined. If negative, this is the % to be added to unit time, due to weak volume.

SAVING DUE TO VOLUME ON COUNTRY

If positive, that is the percentage of saving on manpower time, thanks to the volume produced for this single country. If negative, this is the % to be added to unit time, due to weak volume.

TOTAL HOURS SAVED

This is the total of manpower hours saved (+) or consumed (-) compared to standard time, according to decided production volumes.

SAVING (+) OR OVERCOST (-) GLOBAL

% saving or over cost on manpower used for manufacturing thanks to volume

FINAL MANPOWER UNIT TIME

This is the actual unit time taken into account for manufacturing results, combining effects of productivity and volume.

MATERIALS COSTS Vs VOLUMES :

MATERIALS COSTS Vs VOLUME			
Saving due to total volume	-0.29 %		
Saving due to volume on country	-2.69 %	-7.84 %	0.00 %
Saving on purchasing costs	-32195 $		
Saving(+) or overcost(-)	-4.27 %		
Standard materials cost	1.200 $	1.440 $	1.440 $
Materials cost with AQL	1.254 $	1.505 $	1.505 $
Final materials unit cost	1.291 $	1.627 $	1.505 $

Materials are purchased, each quarter, based on volumes produced during the quarter.

SAVING DUE TO TOTAL MANUFACTURING VOLUME

If positive, that is the percentage of saving on materials costs, thanks to total volume produced in quarter, all countries combined. If negative, this is the % to be added materials price, due to weak volume.

SAVING DUE TO VOLUME ON COUNTRY

If positive, that is the percentage of saving on materials costs, thanks to the volume produced for this single country. If negative , this is the % to be added to materials prices, due to weak volume.

SAVINGS ON PURCHASING COSTS

This is the total of (dollars) saved (+) or paid (-) for materials costs compared to standard cost, according to decided production volumes.

SAVING (+) OR OVERCOST (-) GLOBAL

% saving or over cost materials purchased thanks to volume

STANDARD MATERIALS COST

This is the contribution of material cost in the calculated standard cost for each country.

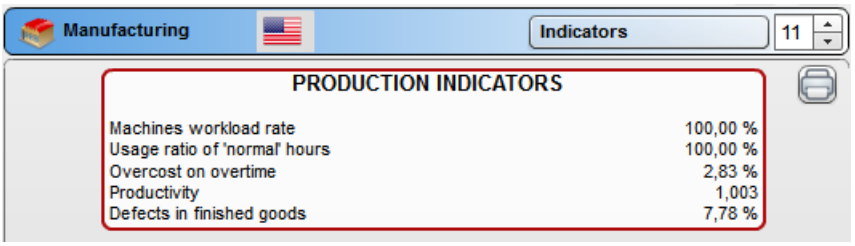
MATERIALS COST LINKED TO SELECTED QUALITY

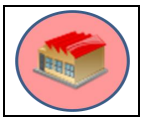
This is the unit cost of materials linked to the quality selected (Quality Assurance level and AQL).

FINAL MATERIALS UNIT COSTS

This is the unit cost of purchased raw materials, for each country, including the basic price, the influence of quality and the impact of volumes. This unit cost is used to evaluate the manufacturing variances and the treasury moves.

4. Manufacturing indicators





% USAGE OF PLANT CAPACITY

% of machines capacity used during this quarter.

% OF USAGE OF MANPOWER CAPACITY

% of the "normal" available labour hours used in this quarter

% OVERTIME

% Overtime hours compared to "normal" hours

PRODUCTIVITY RATIO

This is the coefficient resulting from the aging of machines. As you get older, they require more setup time so more manpower.

FINAL DEFECTS RATE

% Of defective products out of production taken into account in assessing compliance with ISO certification.

REMARK ON THE SIMULATION

Utilization rates shown for the quarters "simulated" may be approximate, since the simulations renew elements of the previous quarter: defects level, productivity, effect the volume..

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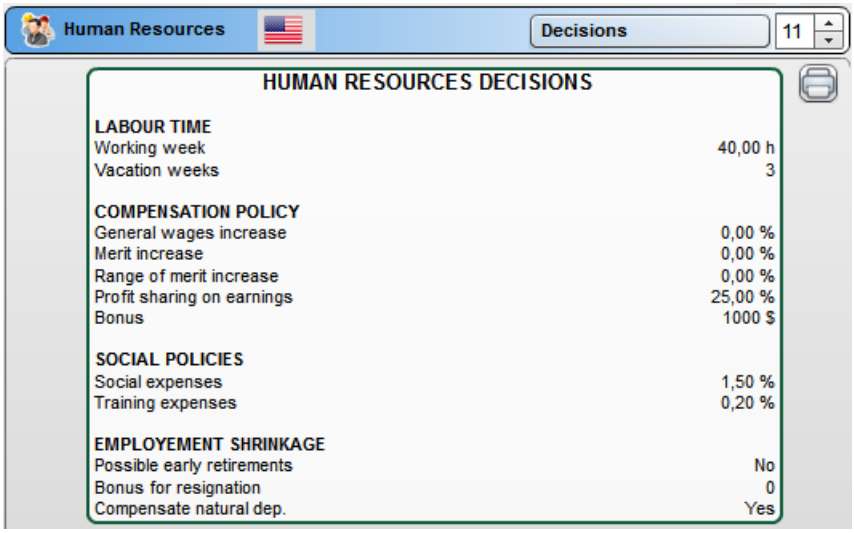
D. REPORTS ON HUMAN RESOURCES

1. Human resources decisions



LABOUR TIME

WORKING WEEK

Number of working hours per week currently applied in the company.

YEARLY VACATION (weeks)

Number of yearly vacation weeks in your company.

COMPENSATION POLICY

GENERAL WAGES INCREASE

General increase of the hourly basic salary, in %.
This increase is applied in this quarter, uniformly for all personnel. This increase is equally without reference to age.

MERIT INCREASE

% of salary increase given to a selected part of personnel as merit recognition.

% OF WORKERS RECEIVING MERIT INCREASE

% of people receiving the merit increase.

% OF EARNINGS FOR PROFIT SHARING

% of net profit distributed to personnel as Profit Sharing. This is calculated on basis of last quarter net income after tax.

BONUS GRANTED TO EACH WORKER

In US,$ that is the amount given individually to all personnel in this quarter only. This bonus is taken into account to calculate the purchasing power evolution. This bonus can be decided again in the next quarter.

SOCIAL POLICIES

SOCIAL EXPENSES/COMPENSATION

Calculated as a percentage of total salaries, this amount is used for social activities as entertainment, sport, cafeteria, improvement of labour conditions.

TRAINING EXPENSES/COMPENSATION

Calculated as a percentage of time of workers dedicated to training

EMPLOYEMENT SHRINKAGE

EARLY RETIREMENT ACCEPTED

YES or NO according to your decision to accept or not early retirement for people above the legal limit of 55. Early retirement occurs only in case of personnel shrinkage.

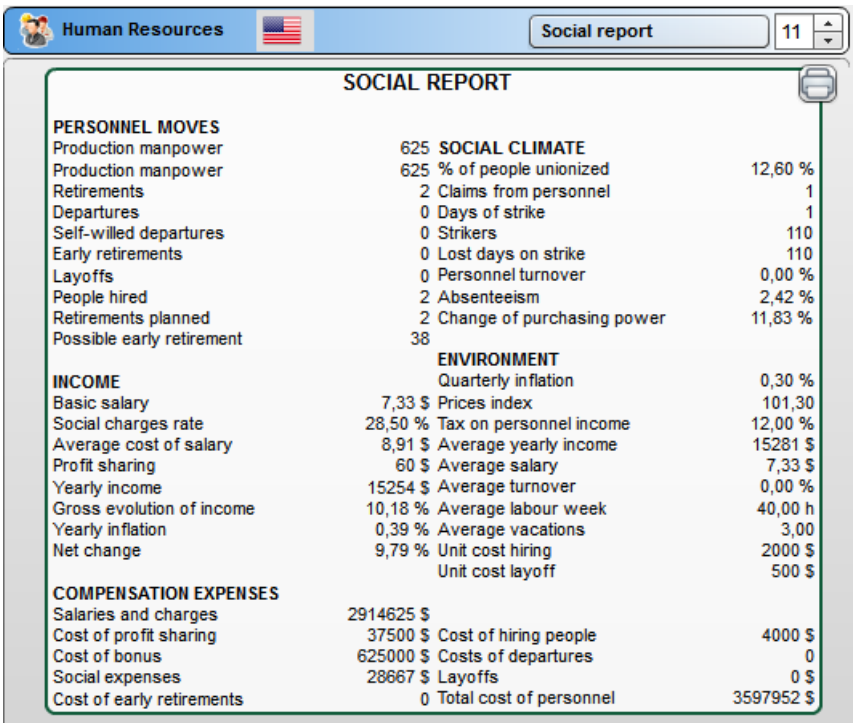
MONTH BONUS FOR SELF-WILLED RESIGNATION

That is the number of monthly wages given to people deciding to resign in case of personnel compression.

NATURAL DEPARTURES ARE COMPENSATED

YES or NO to compensate or not the retirements and resignations

2. Social report



PERSONNEL MOVES			
Production manpower	625	**SOCIAL CLIMATE**	
Production manpower	625	% of people unionized	12,60 %
Retirements	2	Claims from personnel	1
Departures	0	Days of strike	1
Self-willed departures	0	Strikers	110
Early retirements	0	Lost days on strike	110
Layoffs	0	Personnel turnover	0,00 %
People hired	2	Absenteeism	2,42 %
Retirements planned	2	Change of purchasing power	11,83 %
Possible early retirement	38		
		ENVIRONMENT	
INCOME		Quarterly inflation	0,30 %
Basic salary	7,33 $	Prices index	101,30
Social charges rate	28,50 %	Tax on personnel income	12,00 %
Average cost of salary	8,91 $	Average yearly income	15281 $
Profit sharing	60 $	Average salary	7,33 $
Yearly income	15254 $	Average turnover	0,00 %
Gross evolution of income	10,18 %	Average labour week	40,00 h
Yearly inflation	0,39 %	Average vacations	3,00
Net change	9,79 %	Unit cost hiring	2000 $
		Unit cost layoff	500 $
COMPENSATION EXPENSES			
Salaries and charges	2914625 $		
Cost of profit sharing	37500 $	Cost of hiring people	4000 $
Cost of bonus	625000 $	Costs of departures	0
Social expenses	28667 $	Layoffs	0 $
Cost of early retirements	0	Total cost of personnel	3597952 $

PERSONNEL MOVES

PERSONNEL MOVES	
Manpower in quarter Q-1	625
Manpower in quarter Q	625
Retirements	2
Resignations	0
Self-willed departures	0
Early retirements	0
Layoffs	0
People hired	2
Retirements planned in Q+1	2
Possible early retirements	38

These figures are related to direct people in manufacturing, excluding management and quality staff.

MANPOWER IN QUARTER Q-1

Total of direct workers at end of last quarter.

MANPOWER IN QUARTER Q

Total current number of direct people available for the quarter production.

RETIREMENTS

Number of people having left the company this quarter having reached the legal age (60).

RESIGNATIONS

Number of people having resigned during this quarter. This number is taken into account to calculate the turnover.

SELF-WILLED DEPARTURES

In case of personnel compression, that is the number of people choosing to leave the company with the incentive bonus given to promote voluntary resignation.

EARLY RETIREMENT

Number of people between (55 and 60) having left the company in early retirement.

LAYOFFS

Number of people being dismissed due to personnel compression.

PEOPLE HIRED

The difference between Q-1 and Q increased by the retirement and departures. The hiring may have been limited by the condition of the employment market.

RETIREMENT PLANNED IN QUARTER Q+1

Number of people who will reach the retirement age during next quarter.

POSSIBLE EARLY RETIREMENTS

Number of people who will be between (55) and (60) during next quarter and therefore who would be candidates for early retirement.

SOCIAL CLIMATE

SOCIAL CLIMATE	
% people unionized	10,00 %
Number of personnel claims	1
Days of strike	0
Number of strikers	0
Man days lost on strike	0
Personnel turnover	0,00 %
Absenteeism	2,59 %
Purchasing power	-2,29 %

% PEOPLE UNIONIZED

% of workers affiliated to Unions. These people could follow the Union recommendations in case of social conflict.

NUMBER OF PERSONNEL CLAIMS

See " CLAIM REPORT"

DAYS OF STRIKE

Number of working days with a production stop due to strike.

NUMBER OF STRIKERS

Number of people in manufacturing following the strike.

MAN DAYS LOST ON STRIKE

Number of labor man/days lost for manufacturing due to strikes.

PERSONNEL TURNOVER

% of personnel having resigned in last quarter. This value is translated in a yearly ratio. Resignations are influenced by social climate in the company, its economical and social positions and also the status of labor market: competitors situation, salaries, hiring ...

ABSENTEEISM

% of manufacturing people absent during the quarter. Manpower capacity is reduced accordingly and cannot be compensated by overtime.

PURCHASING POWER

Starting from quarter 2, this ratio measures all variations of net income of company's workers against inflation rate. All salary elements are taken into account as salary, bonus and profit sharing minus taxes on salaries.

SOCIAL & ECONOMICAL ENVIRONMENT

ENVIRONMENT	
Quarterly inflation	0,30 %
Prices index	106,40
Tax on personnel income	14,00 %
Average income	14988 $
Average salary	8,07 $
Average turnover	0,00 %
Average labour week	38,00 h
Average vacations (weeks)	4,00
Unit cost hiring	3000 $
Unit cost layoff	500 $

QUARTERLY INFLATION

Inflation rate for the quarter in %, in the country of headquarters.

PRICES INDEX

Index of retail prices. Index of quarter two is 100.

TAX ON PERSONNEL INCOME

Average rate of taxes on personnel income, in %.

AVERAGE INCOME

In US$, the average value of total salary income for all personnel in your industry.

AVERAGE SALARY

In US$, the average value of basic salary

AVERAGE TURNOVER

Average resignation rate in your industry. The resignation of your personnel can be a consequence of your own social policies or of your company's health. The global status of the industry will also influence the turnover. For personnel also you are in competition!

AVERAGE LABOUR WEEK

Average work week in your industry.

AVERAGE VACATIONS (weeks)

Average number of yearly vacation weeks in your industry.

UNIT HIRING COST

Average unit cost to hire one worker in US$

UNIT LAYOFF COST

Average unit cost to dismiss one worker in US$

COMPENSATIONS

INCOME	
Basic salary	7,65 $
Social charges rate	28,50 %
Average cost of salary	9,03 $
Profit sharing	144 $
Average yearly income	14037 $
Gross evolution of income	-2,07 %
Yearly inflation	2,60 %
Net change	-4,67 %

BASIC SALARY

Basic salary in your company (US$).

SOCIAL CHARGES RATE

% to be added to basic salary and paid by the company to calculate the total cost of salaries, assuming that you multiply the basic salary by the ratio linked to age of people. Social charges are not applied to bonus and profit sharing.

AVERAGE COST OF SALARY

Combination of basic salary, age coefficient, and social charges in US$.

PROFIT SHARING

Value of profit sharing bonus given to each worker in US$.

AVERAGE YEARLY INCOME

Individual average total income, including salary, bonus and profit sharing in US$.

GROSS EVOLUTION OF INCOME

% of the yearly evolution of average gross salary.

YEARLY INFLATION

% of inflation measured on last four quarters.

NET CHANGE

% of yearly net average revenue evolution in US$.

PERSONNEL EXPENSES

COMPENSATION EXPENSES			
Salaries and charges	4125603 $	Cost of hiring people	0 $
Profit sharing cost	125280 $	Self-willed departures	0
Bonus	0 $	Layoffs cost	3500 $
Social expenses	62630 $	Total cost of personnel	4313513 $
Cost of early retirements	0		

SALARIES & CHARGES

Total of quarterly cost of salaries,
(including bonus and profit sharing) in US$.

PROFIT SHARING COST

Total of profit sharing distributed in the quarter in US$.

BONUS

Total cost of distributed bonus in this quarter in US$. This budget is only distributed in case of positive net income in last quarter.

SOCIAL EXPENSES

Cost of social expenses in the quarter in US$.

COST OF EARLY RETIREMENT

Cost of early retirement bonus in the quarter in US$.

COST OF HIRING PEOPLE

Expenses in quarter to hire personnel. This amount includes all personnel hiring including Quality Staff people in US$.

COST OF DEPARTURES' INCENTIVES.

Cost of incentives paid to encourage resignation to avoid layoff (in money #1).

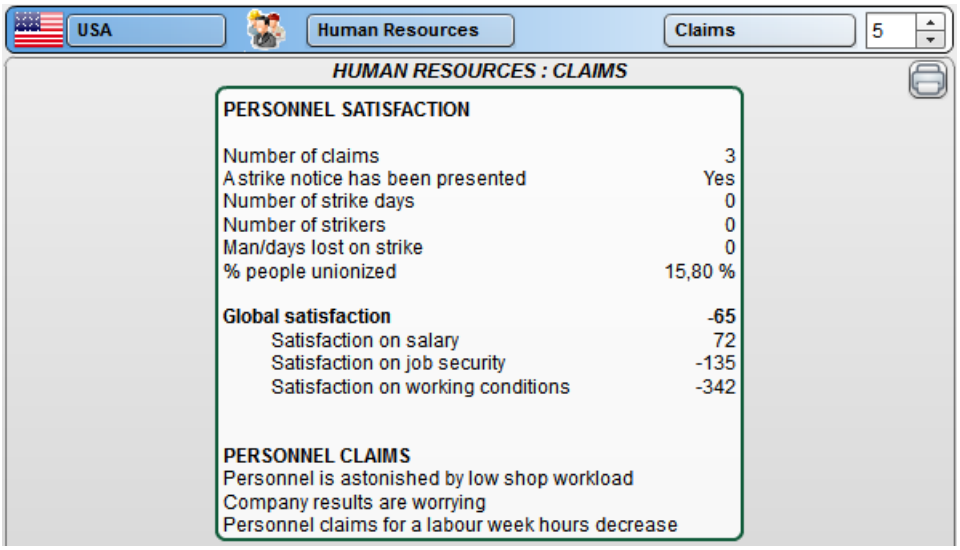
COST OF LAYOFF

Cost of real layoff in the quarter in US$.

TOTAL COMPENSATIONS

Total cost of all personnel related expenses in US$

3. Personnel claims



PERSONNEL REACTIONS

NUMBER OF CLAIMS

Number of personnel claims presented in this quarter. The personnel can react to a "permanent" situation or to a "pot" situation. He can disapprove the compensation policy, the working conditions or the lack of employment security. The effect could appear in this report where you will know the reasons of this dissatisfaction and furthermore if you have a strike notice or a strike.

A STRIKE NOTICE HAS BEEN PRESENTED

The personnel are not satisfied. If this situation grows and if you don't meet the personnel claims, a notice for strike can be presented and that could lead to a strike on next quarter.

NUMBER OF STRIKE DAYS

In case of social conflict, the personnel or a part of the whole personnel can stop working one or several days varying with the social pressure and the severity of personnel claims. The size of the strike can also vary with the age of claim and/or influence of Unions.

NUMBER OF STRIKERS

Number of people joining the strike. Non-worked days are never paid but the lost hours cannot be balanced with overtime.

MAN/DAYS LOST ON STRIKE

Number of people joining the strike x Number of strike days.

% PEOPLE UNIONIZED

% of workers affiliated to Unions. These people could follow the Union recommendations in case of social conflict.

PERSONNEL SATISFACTION

GLOBAL SATISFACTION

This indicator merges the satisfaction or the dissatisfaction of personnel related to the global personnel policies in your company.

SATISFACTION ON SALARY

This indicator shows the satisfaction or the dissatisfaction of personnel related to their purchasing power

SATISFACTION ON EMPLYMENT SECURITY

This indicator shows the satisfaction or the dissatisfaction of personnel related to hiring or layoff decisions, investments, workload, market shares

SATISFACTION ON WORKING CONDITIONS

This indicator shows the satisfaction or the dissatisfaction of personnel related to labour time, training, age of machines ...

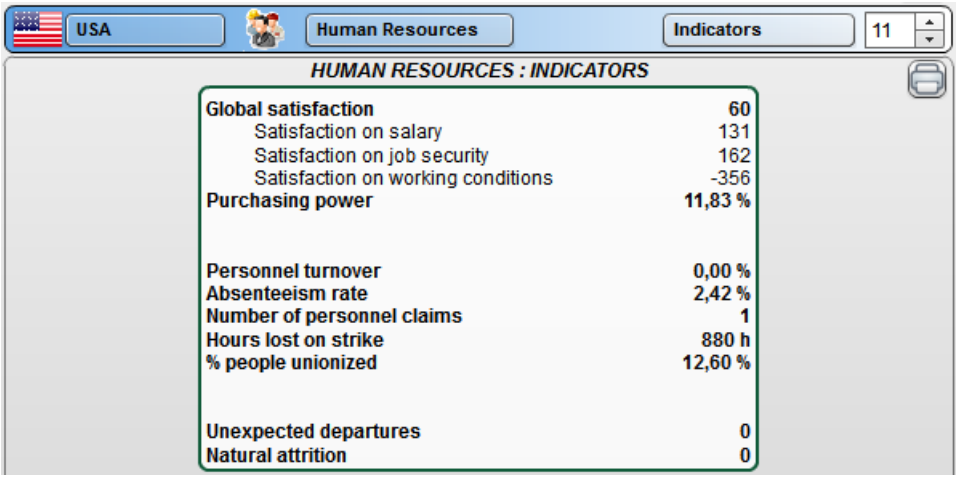
CLAIMS' LIST

These lines give a short list of the reasons for personnel's claims.

Some of those claims are punctual. Some other could be more global, for example in case of full disagreement on salary policy.

You have in all reports, the element to evaluate on a quantitative basis the reasons of those claims. Follow them quarter after quarter. Your analysis will allow you to prevent social reactions.

4. Human resources: indicators



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SATISFACTION ON WORKING CONDITIONS
This indicator shows the satisfaction or the dissatisfaction of personnel related to labour time, training, age of machines ...

PURCHASING POWER
Starting from quarter 2, this ratio measures all variations of net income of company's workers against inflation rate. All salary elements are taken into account as salary, bonus and profit sharing minus taxes on salaries.

ABSENTEEISM RATE

% of manufacturing people being absent during the quarter. Manpower capacity is reduced accordingly and cannot be compensated by overtime.

NUMBER OF PERSONNEL CLAIMS

See "Claims reports"

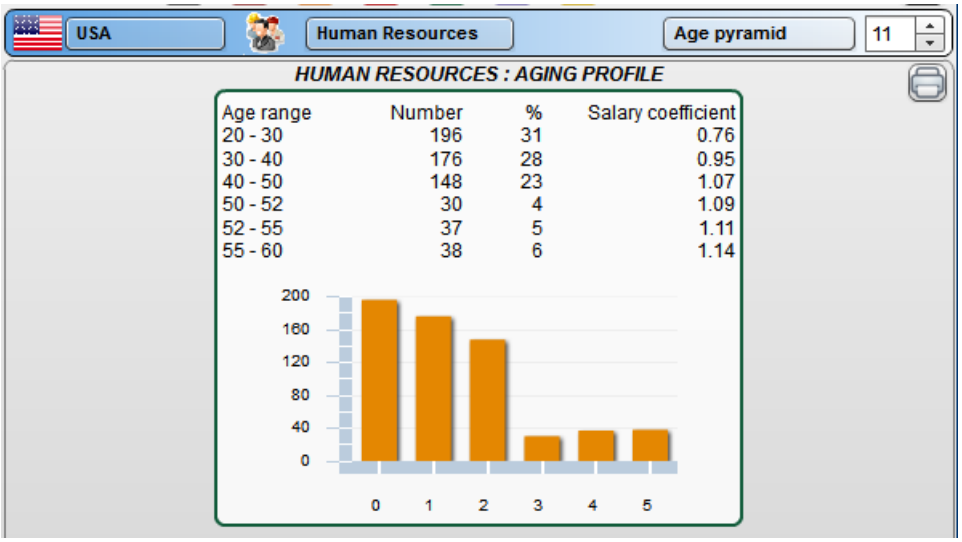
HOURS LOST ON STRIKE
Number of working hours with a production stopped due to strike.

% PEOPLE UNIONIZED
% of workers affiliated to Unions. These people could follow the Union recommendations in case of social conflict.

UNEXPECTED DEPARTURES
Number people having resigned. Corresponds to manpower turnover.

NATURAL ATTRITION
Number of departures linked to age

5. Human resources : Aging profile



The manpower is broken down by age group. Each age is a factor that is applied to the wage workers of this age.

The salary decided in the decisions for staff is an average salary.

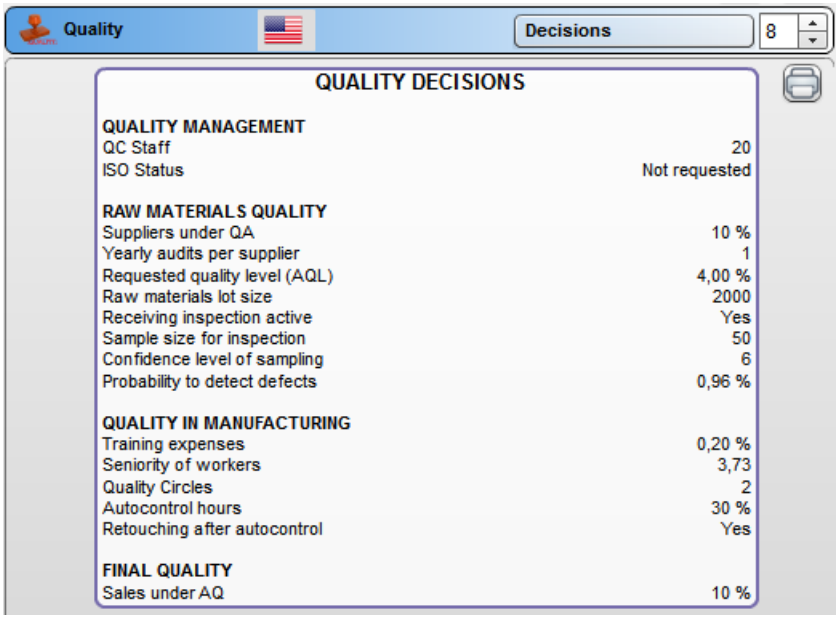
When hiring, the model evaluates in which age group new employees are recruited, focusing on younger. This can be advantageous for wage cuts but can lead to problems of quality and / or productivity if you do not give adequate training.

If you have any resignations, it will be rather middle-aged workers, already experienced, that will be the first to go.

For older, beyond e 55 years, they are potentially those who can retire early if you plan decrease in employment (only). The retirement age is normally 60 years.

E. REPORTS ON QUALITY

1. « Quality » decisions



Quality management

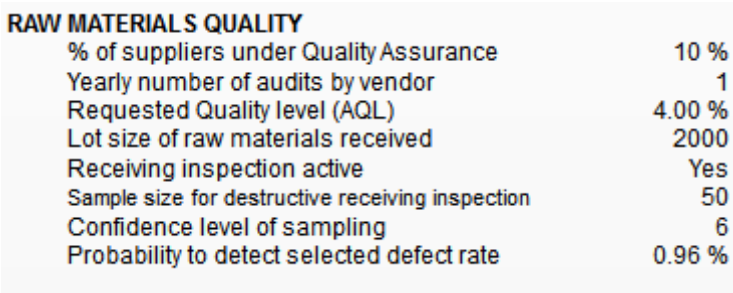
NUMBER OF PEOPLE IN QUALITY STAFF

Number of people performing the quality tasks (not included in shop headcount)

SETUP AN ISO 9000 CERTIFICATION

Status of ISO 9000 process

Raw materials quality



RAW MATERIALS QUALITY	
% of suppliers under Quality Assurance	10 %
Yearly number of audits by vendor	1
Requested Quality level (AQL)	4.00 %
Lot size of raw materials received	2000
Receiving inspection active	Yes
Sample size for destructive receiving inspection	50
Confidence level of sampling	6
Probability to detect selected defect rate	0.96 %

% OF SUPPLIERS UNDER QUALITY ASSURANCE

The percentage of suppliers under Quality Assurance defines the percentage of raw materials purchased under Quality Assurance. The AQ level insures a better regularity of the selected quality level. A raw material under AQ is more expensive.

NUMBER OF ANNUAL AUDITS/SUPPLIER

It is the number of annual audits for each vendor under AQ. These audits are mandatory to insure that the Quality Assurance agreement with your supplier is correctly respected.

REQUESTED QUALITY LEVEL (AQL)

This is the maximum % of defects accepted in raw materials received from the suppliers

RECEIVING INSPECTION ACTIVE

YES or NO if you use or not a receiving inspection by sampling

LOT SIZE OF RAW MATERIALS

Size of the raw material batch received from your supplier. This quantity is imposed (2000 units).

SIZE OF SAMPLES

That is the number of parts taken as sample for receiving inspection. The receiving inspection is destructive.

SELECTED CONFIDENCE LEVEL

It is the number of defective parts found at receiving inspection, in the sample, and from which the whole raw material lot will be rejected.

PROBABILITY TO DETECT SELECTED DEFECT RATE

According to you sampling decisions, this is the probability (calculated with Poisson law) to detect the defects corresponding to the selected AQL

Manufacturing quality

QUALITY IN MANUFACTURING	
Training expenses/Compensation	0.20 %
Average seniority of workers (years)	4.15
Number of active Quality Circles	2
Production share under Autocontrol	30 %
Retouching is allowed after Autocontrol	Yes

% TRAINING/COMPENSATION

% of time of workers dedicated to training.

AVERAGE SENIORITY OF WORKERS (YEARS)

influence by your hiring policy

ACTIVE QUALITY CIRCLES

Number of Quality Circles active.

% OF PARTS SUBMITTED TO AUTO CONTROL

% of manufactured parts, checked on the production line by the workers. A detected defective part can be corrected by retouching but not with a 100% yield. Retouching consumes time and you can prefer to submit goods to final checks.

RETOUCHING IS ACCEPTED

YES or NO according to your decision to accept or to refuse retouching on defects detected during manufacturing process.

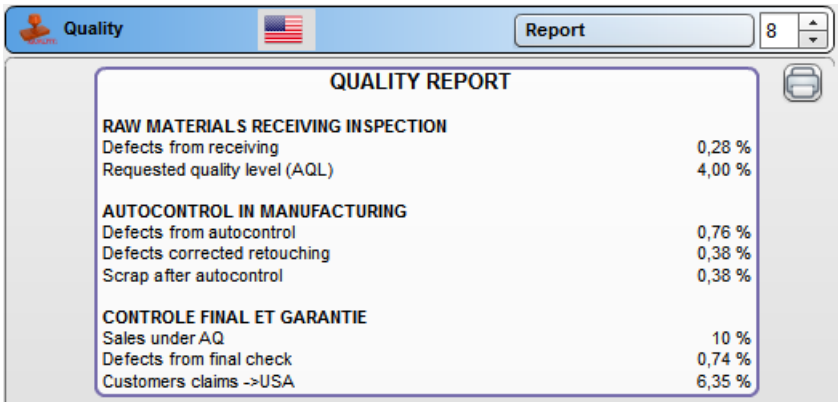
Quality Assurance

FINAL QUALITY	
% of finished goods tested in final Q-check	10 %

% OF SALES UNDER QUALITY ASSURANCE

It is the part of your sales that you realize under a Quality Assurance clause. This percentage corresponds to the parts submitted to final Q-check.

2. Quality report



Raw materials receiving inspection

RAW MATERIALS DEFECTS MEASURED

It is the % of defective raw materials detected in the materials submitted to receiving inspection by sampling Vs total volume

SELECTED AQL

This is the maximum % of defects accepted in raw materials received from the suppliers

Autocontrol

DEFECTS MEASURED

% of defects measured in products submitted to autocontrol. The autocontrol is also applied to parts that have been retouched.

DEFECTS CORRECTED

Within parts being detected as defective by autocontrol, this is the % of parts that have been corrected

SCRAP AFTER AUTO-CONTROL

Scrapped parts if retouching failed or if retouching not decided

Final Q-Check & warranty

% PRODUCTION CHECKED

This is the % of finished goods submitted to final Q-check. If the control is performed, it is applied to all parts. Products sold under Quality Assurance are obligatory submitted to this final control.

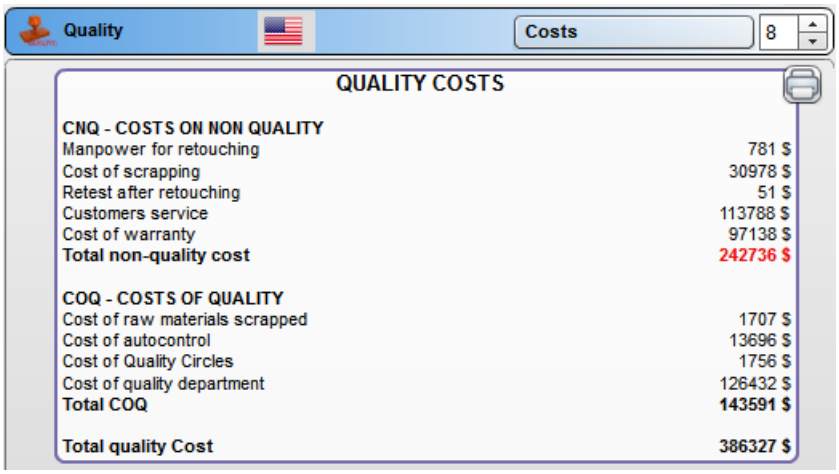
DETECTED DEFECTS

This is the % of defects measured in final Q-check. Beyond these defects, detected & scrapped, some defects will remain in the finished goods that will be sold since a partial control has been done and because the test is not 100% reliable (learning curve...)

CUSTOMERS CLAIMS/SALES

Customers can obtain a replacement of your defective products under the policy of warranty. The wrong products can be manufactured in past quarters and have been kept in stock. This % does not necessarily represent the total % of bad sales because customers do not require replacement of all the bad parts.

3. Cost of quality



Cost of non-quality (CNQ)

MANPOWER FOR RETOUCHING

Cost of personnel dedicated to retouching after Auto control.

SCRAPPING OF FINISHED GOODS

Value at standard cost of parts scrapped after final Q check.

RETEST AFTER RETOUCHING

Cost of production hours spent to test again the products after retouching.

AFTER SALES SERVICE

Cost of administration of sales related to the processing of customers' claims and warranty processing (excluding replaced goods).

COST OF WARRANTY

Value at standard cost of goods replaced after customers' claims for defective goods.

TOTAL CNQ

Total cost of Non-Quality. This is the sum of the five items above. This represents only the measured costs. Some indirect penalties as loss of market share are not easily accounted. These costs are related to weaknesses in your procurement policy, in your manufacturing process and final acceptance. Probably, a higher COQ can decrease the CNQ. It is your choice to optimize the balance.

Cost of quality (COQ)

RAW MATERIALS SCRAPPED

Value of raw materials scrapped at receiving inspection. Remember that the samples are submitted to a destructive test.

COST OF AUTO CONTROL

Value of personnel hours spent to perform the Auto control tasks.

COST OF QUALITY CIRCLES

Cost of hours spent to attend to Quality Circles.

COST OF QUALITY DEPARTMENT

Value of personnel of the QC staff. This staff realizes all the tasks related to your Quality improvement actions as animation of Quality Circles, receiving inspection or final check.

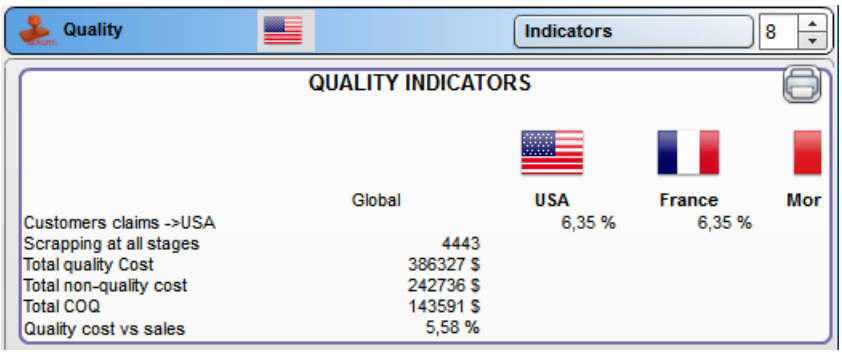
TOTAL COQ

Sum of these four items. This is the value of action leading to control and to improve quality at several stages.

TOTAL COST OF QUALITY (TQC)

Total cost of quality : TQC = CNQ + COQ

4. Quality indicators



RATIO CLAIMS VS SALES VOLUME

Quantities for which clients place a claim Vs total sales quantity

TQC TOTAL QUALITY COST

= CNQ + COQ.

CNQ COST OF NON QUALITY

Sum of all costs corresponding to abnormal quality (scraps, claims, after sales ...)

COQ COST OF QUALITY

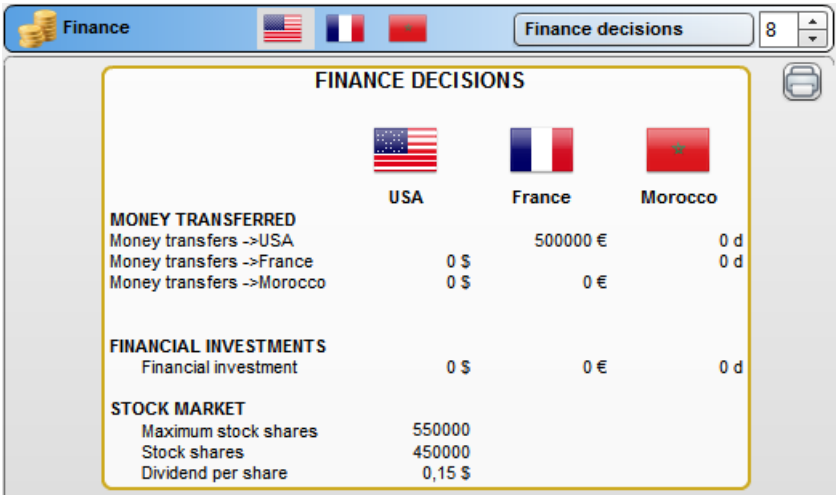
Sum of all costs corresponding to action aiming to improve quality : training, Q-check, R&D focused on quality ....

RATIO TOTAL QUALITY COSTS /VS SALES SOLUME

TQC / sale volume

F. FINANCIAL REPORTS

1. Report on financial decisions



MONEY TRANSFERS

MONEY TRANSFERRED

MONEY EXPORTED : from USA to France or to Morocco
MONEY IMPORTED : from France or Morocco to USA

FINANCIAL INVESTMENTS

FINANCIAL INVESTMENTS

It is the TOTAL of financial investment in the quarter in local currency.

LONG TERM LOANS

LONG TERM LOANS

It is the TOTAL amount of loans in each country, in local currency. It is the amount of credit line used and not the credit line itself.
This value cannot be confused with the short term loans, automatically given to cover treasury requirements.

STOCK MARKET

SHARES AUTHORIZED

It is the TOTAL authorization of shares number to be released.

SHARES RELEASED

It is the TOTAL amount of released shares of your company.

DIVIDEND BY SHARE

It is the dividend allocated in the quarter to shareholders for each share, defined in US$.

2. Operating result

REPORTS Finance 1 - Butterfly Operating income 15

Operating income

Value of sales		9898140 $	
Cost of goods sold	-5021319 $		
Gross margin			4876821 $
Variance on production cost	-307945 $		
Cost of overtime	-7983 $		
Cost of lost hours	0 $		
Hiring or layoff cost	-174000 $		
Loss on reimported products	0		
Total overhead costs		-489928 $	
Transportation fees	-60559 $		
Import duties	0 $		
Advertising budget	-420000 $		
Research and development	-300000 $		
Inventory cost	-41328 $		
Sales administration cost	-226481 $		
Distributors cost	-1979628 $		
Cost distribution network	0 $		
Cost of warranty	-47635		
Miscellaneous expenses	-115000 $		
Operating expenses		-3190631 $	
Total charges			-3680559 $
EBIT (Operating result)			1196262 $
EBITDA			1811262 $

Some items in this report have only significance for the headquarters results. They are marked with (H). If they are only available for a foreign subsidiary, the marking is (F).
Values are in local currency.

SALES **(1)**

Sales value = sold quantity x unit price in this market.

COST OF GOODS SOLD **(2)**

Sold quantity value at standard cost.

GROSS MARGIN **(3)**

Generated by quarter's sales = (1) - (2).

VARIANCE OF PRODUCTION COST **(H)** **(4)**

It is the difference between the actual real expenses for personnel, raw materials and overhead and the corresponding value covered in standard cost. This variance does not include the additional cost of overtime, the hours lost for production shortage, the hiring or layoff costs. This account is balanced in each quarter.

The production overhead includes:

- the depreciation on shop capacity
- the operation cost linked to the manufacturing as energy, maintenance, shop management
- the cost of Quality staff
- the cost of scrapping defective goods in the manufacturing process and at final inspection.

The real cost of raw materials varies with the selected quality level (AQL), scraps related to destructive receiving inspection and influence of Quality Assurance on purchasing price.

The real personnel costs include wages and charges, bonus and profit sharing, social expenses. In case of strike, the non-working hours are deducted and never paid.

OVERTIME (H) (5)

Additional cost paid for overtime. Current value is (50%) of normal salary.

LOST HOURS (H) (6)

Cost on non-used personnel due to production shortage.

HIRING AND LAYOFF COSTS (H) (7)

If the PERSONNEL module is used, this account also includes the cost of incentives for voluntary resignation and early retirement.

LOSS ON RE IMPORTED PRODUCTS (H) (8)

It is the difference, at standard cost of the value of products brought back from a foreign subsidiary to the headquarters.

TOTAL GENERAL EXPENSES (H) (9)

= (4) + (5) + (6) + (7) + (8)

TRANSPORTATION FEES (H) (10)

Always paid by the headquarters.

IMPORT DUTIES (F) (11)

Paid by the foreign subsidiary that receives the goods, it is the total imported quantity multiplied by import unit fee. This charge cannot be recovered in case of re importation of goods.

ADVERTISING (12)

Advertising budget in the country during this quarter, in local currency.

RESEARCH & DEVELOPMENT (H) (13)

Paid by headquarters.

WAREHOUSING COST (14)

Cost of warehousing related to the quantity handled in inventory at quarter end.

SALES & ADMINISTRATION COST (15)

Those charges include the distribution network costs (excluding incentives), the investment in new network and the sales administration costs. They also include the cost of customer service, related to the volume of claims received. This amount does not include the cost of products given for replacement of defective goods.

WARRANTY COST (16)

That is the cost of products replaced under the warranty clause, valorised at standard cost.

MISCELLANEOUS (H) (17)

Includes :

- The fixed cost for a capacity investment project (100000money #1).
- The cost of share purchasing or releases.
- The machine refurbishing expenses.
- The cost of ISO 9000 audits

OPERATING EXPENSES (18)

= (10) + (11) + (12) + (13) + (14) + (15) + (16) + (17)

TOTAL EXPENSES (19)

= (9) + (18)

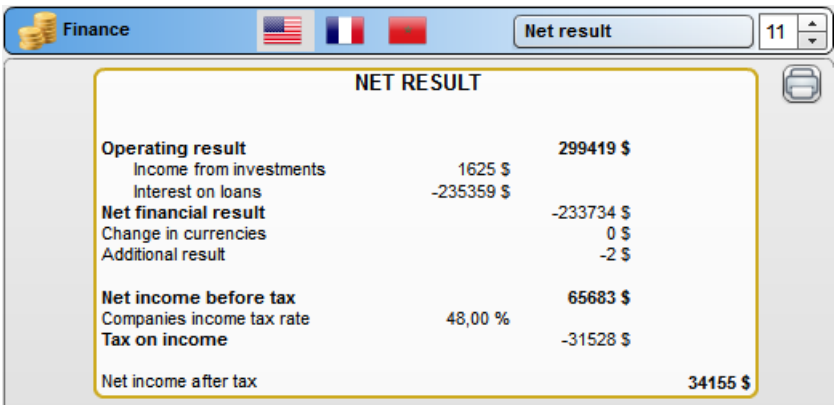
OPERATING INCOME (EBIT) (20)

= margin (3) - charges (19).

EARNINGS BEFORE INTEREST, TAXES, DEPRECIATION, AMORTIZATION (EBITDA) (21)

= EBIT + quarterly amortization (see balance sheet or financial indicators)

3. Net result



OPERATING INCOME **(1)**

Equal to the item (20) in the operating income report.

INCOME FROM INVESTMENTS **(2)**

These interests of financial investments correspond to the placement at last quarter end.

INTERESTS PAID ON LOANS **(3)**

Interests paid on long term and short term loans of previous quarter.

NET FINANCIAL RESULT **(4)**

= (2) + (3)

CHANGE IN CURRENCIES **(5)**

These profits or losses correspond to the net result change linked to the local currency value change against the currency of the country of the headquarters. The variation comes from the revaluation of the financial assets and inventories of the foreign subsidiary. (For more details, read the remark at end of this section)

ADDITIONAL RESULT **(6)**

This value is calculated to balance the equity and the liabilities in balance sheet. That corresponds to the correction linked to rounding of decimal values.

NET INCOME BEFORE TAX **(7)**

= (1) + (4) + (5) + (6)

TAX RATE **(8)**

% of taxes on company income.

TAX ON INCOME **(9)**

Charged to the net income (6), at current tax rate, and only in case of positive income. There is no tax credit in case of loss.

NET INCOME AFTER TAX **(10)**

= (6) + (7)

REMARK ON CURRENCY CHANGES

- The inventory handled by the foreign subsidiary represents a value in ($), the headquarters currency, where the product is manufactured. This value corresponds to the value at quarter's beginning when the exchange rate is re-evaluated.

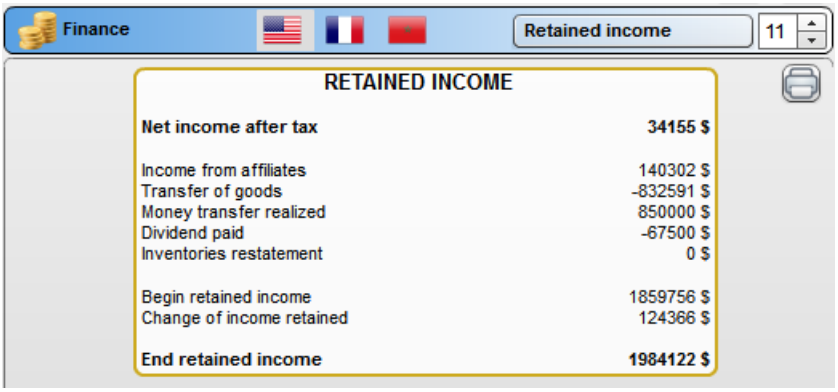
- The net result change linked to the revaluation of inventory is :

Revaluation value in local currency =
(old rate -1) x inventory value at quarter beginning in local currency)/new rate

- The exchange difference will appear in the net result of the subsidiary. On consolidated results, it will be offset by the revaluation of the subsidiary net value in the headquarters accounts.

- The value of AFFILIATED COMPANIES, in the last quarter balance sheet of the headquarters, represents a value in foreign currencies. In case of revaluation, that will generate a profit or a loss in the headquarters account multiplied by the ratio between new and old exchange rate.

4. Evolution of reserves & retained income



This report shows the evolution of the company's net value and for its affiliates. Some figures are only related to headquarters. They are marked with (H). For values only related to foreign subsidiaries (F).

NET INCOME AFTER TAX **(1)**

Equal to item (10) of NET INCOME report.

INCOME FROM AFFILIATED COMPANIES (H) **(2)**

Total of Income retained values of affiliated companies, translated with current currency rates.

TRANSFER OF GOODS **(3)**

Value at standard cost of transferred goods from one country to another, with the sign corresponding to the direction.

TRANSFERS OF MONEY **(4)**

Amount of money exchanged between countries, translated with current exchange rate. One country can only hold money in the local currency. These money exchange values will not affect the consolidated net value.

DIVIDEND PAID **(5)**

Paid by the headquarters to shareholders of last quarter, this is the part of net income distributed.

INVENTORIES RESTATEMENT (F) (6)

As explained here below, that reflects the influence of exchange rate changes on inventory value.

INCOME RETAINED AT QUARTER OPENING (7)

Equal to item (9) of preceding quarter.

CHANGE IN INCOME RETAINED (8)

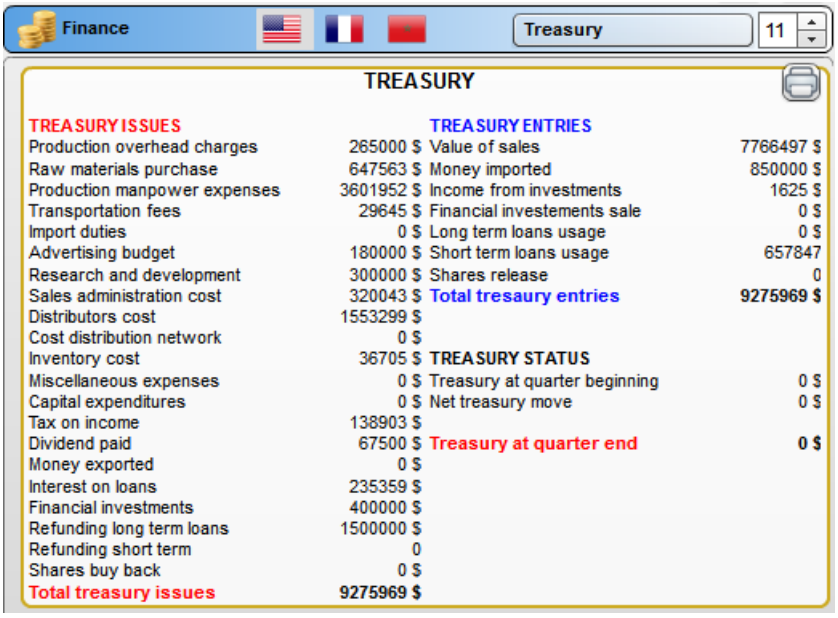
= (1) + (2) + (3) + (4) + (5) + (6)

INCOME RETAINED AT QUARTER'S END (9)

= (7) + (8). This value is added to Common stock in Balance Sheet to calculate Equity.

COMMENT: The debts of the subsidiary against the headquarters are not accounted for in the balance sheet as a debt but are included in the account "retained income" of the subsidiary.

5. Treasury



TREASURY ISSUES		TREASURY ENTRIES	
Production overhead charges	265000 $	Value of sales	7766497 $
Raw materials purchase	647563 $	Money imported	850000 $
Production manpower expenses	3601952 $	Income from investments	1625 $
Transportation fees	29645 $	Financial investements sale	0 $
Import duties	0 $	Long term loans usage	0 $
Advertising budget	180000 $	Short term loans usage	657847
Research and development	300000 $	Shares release	0
Sales administration cost	320043 $	**Total tresaury entries**	**9275969 $**
Distributors cost	1553299 $		
Cost distribution network	0 $		
Inventory cost	36705 $	**TREASURY STATUS**	
Miscellaneous expenses	0 $	Treasury at quarter beginning	0 $
Capital expenditures	0 $	Net treasury move	0 $
Tax on income	138903 $		
Dividend paid	67500 $	**Treasury at quarter end**	**0 $**
Money exported	0 $		
Interest on loans	235359 $		
Financial investments	400000 $		
Refunding long term loans	1500000 $		
Refunding short term	0		
Shares buy back	0 $		
Total treasury issues	**9275969 $**		

TREASURY ISSUES

PRODUCTION OVERHEAD CHARGES (H) (1)

Actual manufacturing overhead expenses.

RAW MATERIALS PURCHASE (H) (2)

Expenses to buy raw material according to purchased quantity for each country and selected quality level.

PERSONNEL EXPENSES (H) (3)

Personnel compensations for direct people's hours, overtime, hiring and layoff costs.
(*) include also the cost of voluntary resignation incentives, early retirement, bonus and profit sharing. The cost of Quality staff is also included.

TRANSPORTATION FEES (H) (4)

Paid by headquarters for all shipment to foreign subsidiaries or goods shipped back.

IMPORT DUTIES (F) (5)

Import duties paid in the foreign country on imported goods.

ADVERTISING (6)

Quarter expenses for advertising.

RESEARCH & DEVELOPMENT (H) (7)

Quarter R&D budget.

SALES & ADMINISTRATION COST (8)

Expenses of customer service including claims processing and warranty processing. This amount also includes the cost related to distribution network opening or change.

MARGIN GRANTED TO DISTRIBUTOR (9)

To wholesalers or exclusive agents

NETWORK OPERATING COST (10)

Cost of privately owned network

INVENTORY COSTS (11)

All cost related to handling of goods in inventory as warehouses, insurance, ...

MISCELLANEOUS EXPENSES (12)

Includes:

- fixed cost for each capacity investment project
- charges on share purchases or sales
- machine refurbishing costs
- ISO 9000 audits

CAPITAL EXPENDITURES (H) (13)

Cost of quarter investments, related to capacity increase.

TAX PAID (14)

Amount paid equal to tax on last quarter income.

DIVIDEND PAID (15)

Dividend decided in last quarter.

MONEY EXPORT (16)

Money sent from this country to headquarters or from headquarters to subsidiary.

INTERESTS ON LOANS **(17)**

Interests paid on last quarter debts, both for long term loans and short term credit to cover treasury requirements.

FINANCIAL INVESTMENTS **(18)**

Increase of money placed as financial investment.

REFUNDING ON LONG TERM LOAN **(19)**

Decrease of long term loans

REFUNDING ON SHORT TERM LOANS **(20)**

This eventual change is related to the final value of the treasury at quarter end. If the treasury would have been negative on last quarters, a short term credit was automatically open to cover the treasury requirements. If the requirements disappear, the corresponding credit is partly or totally refunded.

SHARES BUY BACK **(21)**

Payment at last quarter's stock market value of the company's shares purchased by itself.

TOTAL TREASURY ISSUES **(22)**

Sum of items (1) to (21)

TREASURY ENTRIES

TREASURIES ENTRIES	
Cash from sales	7766497 $
Money transfers	850000 $
Income from investments	1625 $
Financial investments sold	0 $
Long term loans usage	0 $
Short term loans usage	657847
Common stock shares release	0
TOTAL ENTRIES	9275969 $
TREASURY STATUS	
Treasury at quarter opening	0 $
Net change	0 $
TREASURY AT QUARTER'S END	0 $

SALES **(23)**

Correspond to the quarter sales that are always paid totally in the same quarter.

MONEY TRANSFERS **(24)**

Value in local currency of money transferred from a foreign country.

INCOME FROM FINANCIAL INVESTMENTS **(25)**

Income resulting from financial investments of last quarter.

FINANCIAL INVESTMENTS SOLD **(26)**

Decrease of financial investment from last quarter.

LONG TERM LOAN USAGE **(27)**

Increase of usage of long term credit lines.

SHORT TERM LOAN USAGE **(28)**

Increase of usage of short term credit to cover additional treasury requirements.

COMMON STOCK SHARES RELEASE **(29)**

Money resulting from sale of common stock shares.

TOTAL ENTRIES **(30)**

sum (23) to (29)

TREASURY AT QUARTER OPENING **(31)**

Equal to item (31) of last quarter's treasury report.

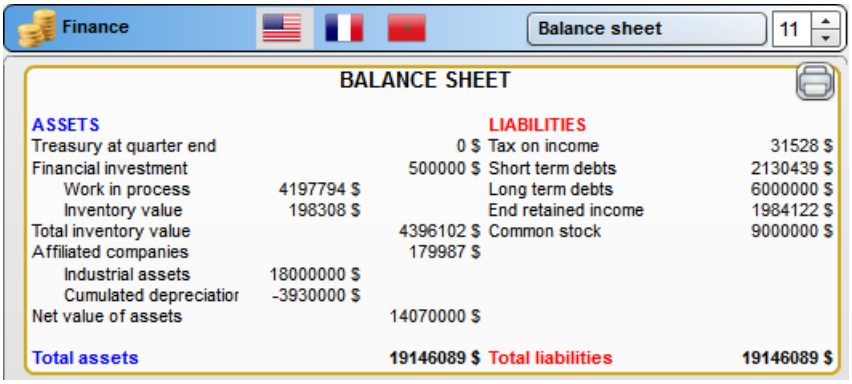
TREASURY NET CHANGE **(32)**

= (22) + (30)

TREASURY AT QUARTER END **(33)**

= (29) + (30). This value appears in the balance sheet. It will never be below zero since a negative treasury is automatically balanced by short term loans.

6. Balance sheet



ASSETS

TREASURY (1)

Treasury at quarter end.

FINANCIAL INVESTMENTS (2)
Present total of financial investments.

- **WORK IN PROCESS** (3)
  Value at standard cost of goods produced in the quarter.

- **INVENTORY** (4)
  Value at standard cost of finished goods in inventory at quarter end.

TOTAL INVENTORIES (5)

= (3) + (4)

AFFILIATED COMPANIES (6)

This value, in US$ represents the translated net value of foreign subsidiaries. This value is reported as INCOME RETAINED in the Balance Sheet of the subsidiary.

INDUSTRIAL ASSETS (7)

Original value of the plant capacity, based on the unit value of (30money #1) per unit capacity installed.

DEPRECIATION (8)

Cumulated value of quarterly depreciation, from the plant creation. The yearly depreciation rate is 10%.

NET VALUE OF ASSETS (9)

= (7) - (8)

TOTAL ASSETS (10)

= (1) + (2) + (5) + (6) + (9)

LIABILITIES & EQUITY

LIABILITIES	
Tax due	31528 $
Short term debts	2130439 $
Long term debts	6000000 $
Retained income	1984122 $
Common stock	9000000 $
TOTAL LIABILITIES	**19146089 $**

TAX DUE **(11)**

Tax to be paid on next quarter on positive net income of current quarter.

SHORT TERM DEBTS **(12)**

Sum of credits used to cover a negative treasury balance. The interest paid on next quarter will be based on this amount and the special rate for short term loans.

LONG TERM DEBTS **(13)**

Total of used credit lines. The interest paid next quarter will be based on this amount and will be based on next quarter prime rate.

RETAINED INCOME **(14)**

This is the cumulated value of net incomes not distributed to shareholders as dividend. That is the cumulated variation of the company's net value.

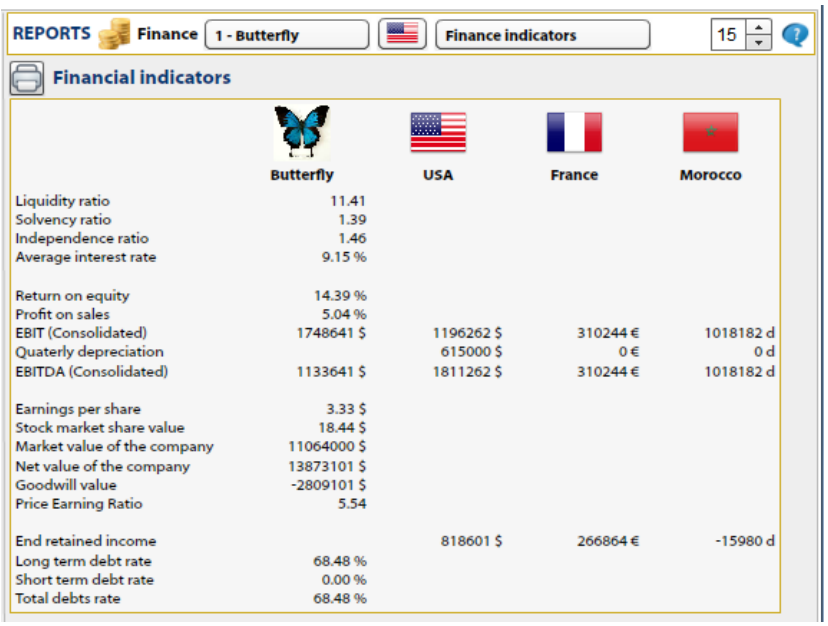
COMMON STOCK **(15)**

When opening the company that is the value of released shares at nominal value (20US$). The opening value is:
450000 shares x 20 US$ = 9000000US$. Further new shares release is done at market value.
Added to Income Retained, the Common Stock value gives the value of Total Equity.

TOTAL LIABILITIES **(16)**

= (11) + (12) + (13) + (14) + (15)

7. Financial indicators



	Butterfly	USA	France	Morocco
Liquidity ratio	11.41			
Solvency ratio	1.39			
Independence ratio	1.46			
Average interest rate	9.15 %			
Return on equity	14.39 %			
Profit on sales	5.04 %			
EBIT (Consolidated)	1748641 $	1196262 $	310244 €	1018182 d
Quaterly depreciation		615000 $	0 €	0 d
EBITDA (Consolidated)	1133641 $	1811262 $	310244 €	1018182 d
Earnings per share	3.33 $			
Stock market share value	18.44 $			
Market value of the company	11064000 $			
Net value of the company	13873101 $			
Goodwill value	-2809101 $			
Price Earning Ratio	5.54			
End retained income		818601 $	266864 €	-15980 d
Long term debt rate	68.48 %			
Short term debt rate	0.00 %			
Total debts rate	68.48 %			

LIQUIDITY

= (value of inventory + financial investments + treasury)/short term debt

SOLVENCY

= Equity / total debts

INDEPENDENCE

= Equity / Long term debts

AVERAGE INTEREST RATE ON DEBTS

Average interest rate on total debts.

This report displays the values of these ratios and in front of each some pointers that show:

- the ratio level against usual business values.
- At left side, the ratio is in "red zone"
- on the right, in the "green zone". That allows you to evaluate the status of your results.

RETURN ON EQUITY

= (4 x Last quarter income x 100) / Equity

PROFIT ON SALES

= Last quarter income / Last quarter sales

EARNINGS PER SHARE

= (-4 x income in last quarter) / number of shares

EBIT (Consolidated)

Earnings Before Interest & Taxes . Cumulated operating income for headquarter and subsidiaries

QUARTERLY DEPRECIATION

Depreciation of industrial assets in this quarter.

EBITDA (Consolidated)

Earnings Before Interest, Taxes & Amortization. Cumulated operating income for headquarter and subsidiaries plus amortization

STOCK MARKET SHARE VALUE

Value of share on stock market

MARKET VALUE OF THE COMPANY

Market value = share value x number of shares

NET VALUE OF THE COMPANY

Book value of company = Liabilities - Debts

GOODWILL

Difference between market value and book value of the company

Price Earning Ratio (PER)

Share value divided by earnings per share. This is a way to evaluate the potential of profitability when purchasing a share.

INCOME RETAINED

From balance sheet. That correspond to the equity increase without bringing external money, therefore an increase (or decrease) of net value of company and the capability of autofinancing of investments.

TOTAL DEBT RATE

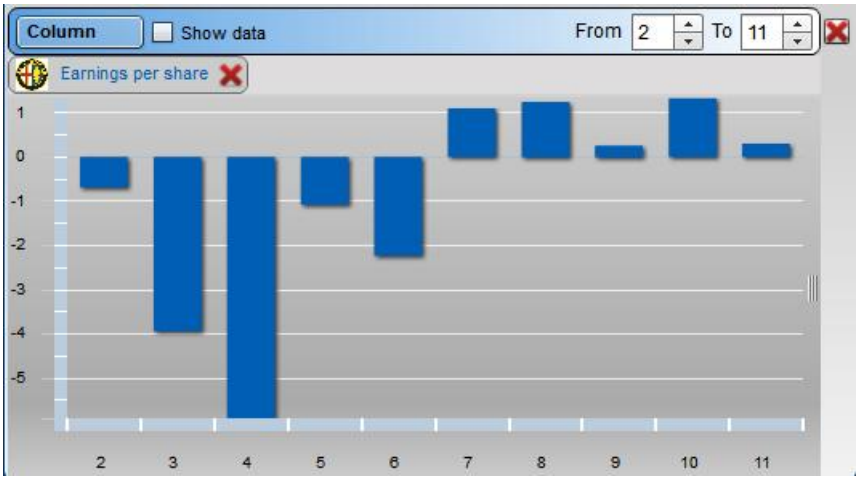
Total of debts (LT and ST) Vs Total Equity

LONG TERM DEBT RATE

Long term debts (consolidated) Vs Total Equity

SHORT TERM DEBT RATE

Short term debts (consolidated) Vs Total Equity



YOU CAN SHOW GRAPHICS FOR ALL VALUES OF THESE REPORTS:

By moving the mouse over the values shown when a chart is available, the label or value color changes. By clicking you will see a chart of evolution by quarter and the corresponding graph.

G. COMMON REPORTS

1. Corporate results published

Universe 1 | Corporate report | 11

RESULTS PUBLISHED BY HEADQUARTERS

	WIN TEAM IN	Peertech Inc	Summer As:	BELFRAN Co	La 5eme Cor	SixQ
Fixed assets	14025000	14070000	14010000	14062500	14040000	14062500
Consolidated inventory	4197446	4396102	4201150	4197371	4198461	4196747
Consolidated treasury	0	285127	247117	0	100901	0
Common stock	9000000	9000000	9000000	9000000	9000000	9000000
Income retained	2041565	1984122	1838217	1866712	1706734	2001164
Consolidated loans	6000000	6000000	6000000	6000000	6000000	6000000
Consolidated taxes	252484	136668	132820	100843	119005	113897

This report represents the summary of corporate results published quarterly by each headquarter

FIXED ASSETS

Net value of industrial assets. (Gross value of plant capacity less depreciation)

INVENTORIES

Inventory value and work in process value in the headquarters' accounts

TREASURY

Treasury of headquarters at quarter end

COMMON STOCK

Value of capital represented by the total common stock shares of the company

INCOME RETAINED

Cumulative value of income after tax not distributed to shareholders as dividends

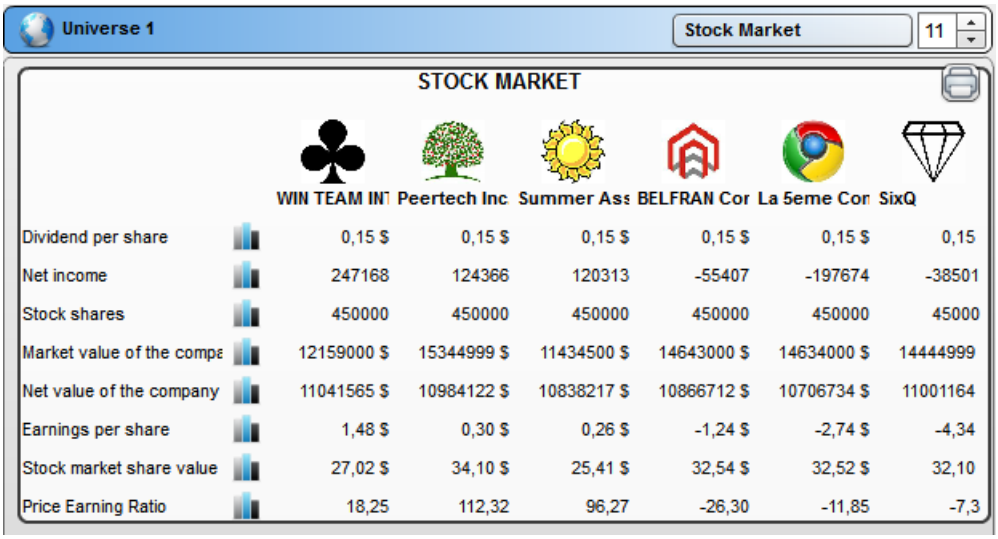
LONG TERM LOANS

Total of used long term loans on the three markets, in US$ with foreign currency loans valorized at current currency rate

INCOME TAX

Cumulative value of taxes due in the three countries for the income of this quarter, figured in US$

2. Stock market report



	WIN TEAM INT	Peertech Inc	Summer Ass	BELFRAN Cor	La 5eme Cor	SixQ
Dividend per share	0,15 $	0,15 $	0,15 $	0,15 $	0,15 $	0,15
Net income	247168	124366	120313	-55407	-197674	-38501
Stock shares	450000	450000	450000	450000	450000	45000
Market value of the compa	12159000 $	15344999 $	11434500 $	14643000 $	14634000 $	14444999
Net value of the company	11041565 $	10984122 $	10838217 $	10866712 $	10706734 $	11001164
Earnings per share	1,48 $	0,30 $	0,26 $	-1,24 $	-2,74 $	-4,34
Stock market share value	27,02 $	34,10 $	25,41 $	32,54 $	32,52 $	32,10
Price Earning Ratio	18,25	112,32	96,27	-26,30	-11,85	-7,3

DIVIDEND PER SHARE

Dividend per share decided in this quarter US$.

NET INCOME

Net income in USA

NUMBER OF SHARES

Current number of shares released

MARKET VALUE

Total market value of the company calculated as the product of the number of shares by the current stock value. Theoretically it would be the amount of money needed to purchase all common stock shares at current market value, imagining that the Stock Market would not react!

NET VALUE

This is total EQUITY of the company, in US$. If figures approximately the company's "real" value.
It is also equal to liabilities minus debts.

EARNING PER SHARE

Net income divided by number of shares

SHARE VALUE

Current value of the company's share on the Stock Market in US$

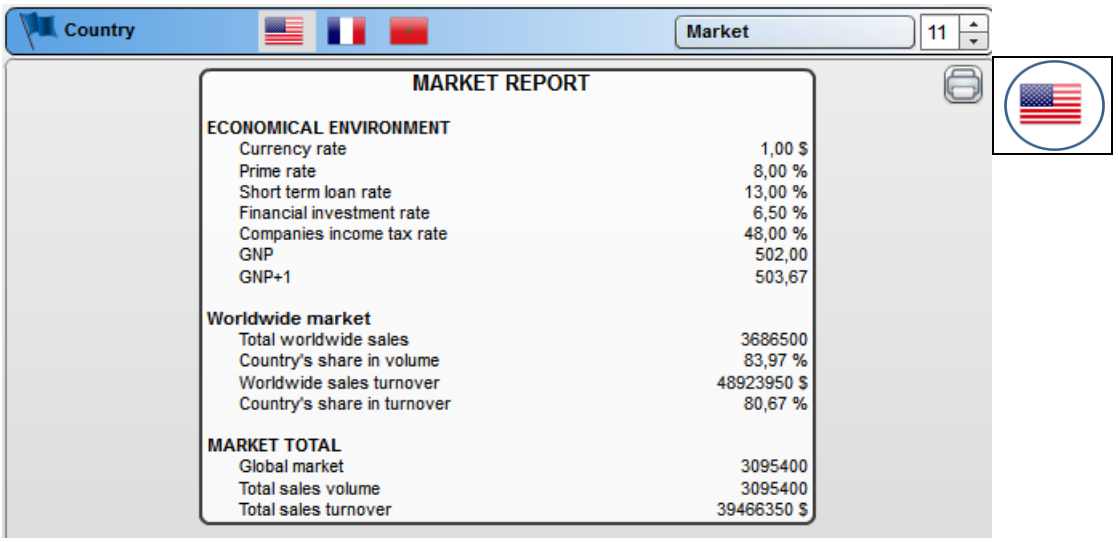
PRICE EARNING RATIO (PER**)**

Share value divided by earnings per share. This is a way to evaluate the potential of profitability when purchasing a share.

3. Country market report

The marketing reports are common to all teams. They show, sometimes approximately, the status of markets and competitors in the three markets. You will also find the major environment indicators as currency rates, GNP, tax rates and prime rates.

This «MARKET REPORT» is available for each of the countries.



COUNTRY'S ENVIRONMENT (for each country)

CURRENCY RATE

Current value of local currency Vs the value of the headquarters' country currency (US$)

FINANCIAL PRIME RATE

This yearly rate is used to calculate the interest on long term loans in the quarter. This value can vary on every quarter and is used on the whole amount of loans at the end of the quarter. This prime rate is also the basis for the short term rate and financial investment interest rate.

SHORT TERM LOANS RATE

Yearly interest rate used to calculate the charges on short term loans at the end of this quarter.

FINANCIAL INVESTMENTS RATE

Yearly rate used to calculate the profit on financial investment at the end of this quarter.

COMPANY INCOME TAX RATE

% of tax on companies income.

GROSS NATIONAL PRODUCT

Last known GNP measured.

ESTIMATED GNP FOR NEXT FOUR QUARTERS

Forecast on next four quarters GNP based on last quarter trend.

WORLDWIDE MARKET

WORLWIDE MARKET IN UNITS

Approximate total market potential. This quantity is related to customer demand and can be higher than total sales.

% UNITS OF COUNTRY MARKET

% of this country market in units, Vs worldwide market

WORLWIDE SALES TURNOVER

Approximate total market potential. This value is related to customer demand and can be higher than total sales.

% TURNOVER OF COUNTRY MARKET

% of this country market in value, Vs worldwide market

MARKET TOTAL

TOTAL MARKET DEMAND (1)

Approximate total of demand in units in this quarter

TOTAL ACTUAL SALES (2)

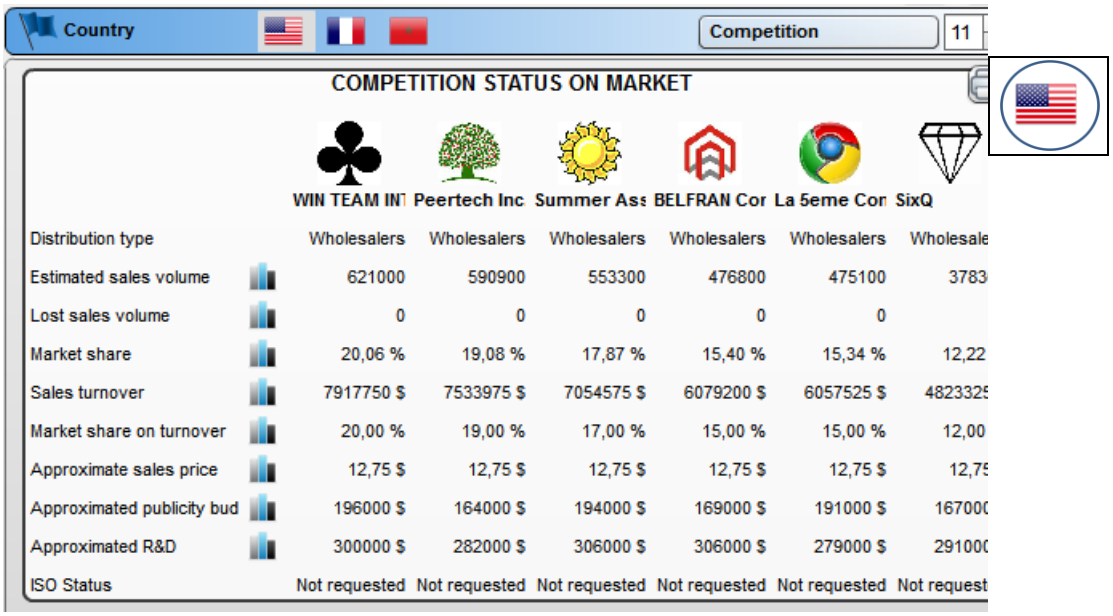
Approximate total of sales in this quarter. A difference between (1) and (2) can come from lost sales due to product shortage

TOTAL SALES TURNOVER

(

Approximate total value of sales in this quarter.

4. Market competition



Country | Competition | 11

COMPETITION STATUS ON MARKET

	WIN TEAM INT	Peertech Inc	Summer Ass	BELFRAN Cor	La 5eme Cor	SixQ
Distribution type	Wholesalers	Wholesalers	Wholesalers	Wholesalers	Wholesalers	Wholesale
Estimated sales volume	621000	590900	553300	476800	475100	3783
Lost sales volume	0	0	0	0	0	
Market share	20,06 %	19,08 %	17,87 %	15,40 %	15,34 %	12,22
Sales turnover	7917750 $	7533975 $	7054575 $	6079200 $	6057525 $	4823325
Market share on turnover	20,00 %	19,00 %	17,00 %	15,00 %	15,00 %	12,00
Approximate sales price	12,75 $	12,75 $	12,75 $	12,75 $	12,75 $	12,75
Approximated publicity bud	196000 $	164000 $	194000 $	169000 $	191000 $	167000
Approximated R&D	300000 $	282000 $	306000 $	306000 $	279000 $	291000
ISO Status	Not requested	Not requested	Not requested	Not requested	Not requested	Not request

The marketing reports are common to all teams. They show, sometimes approximately, the status of markets and for all competitors in the three markets.

DISTRIBUTION

Type of distribution network used by the company, this may be

- Wholesalers
- Exclusive agents
- Own network

SALES (units)

Approximate quantity sold by the company.

LOST SALES (units)

Quantity of sales that the company has lost, due to shortage of products available for sales. The global market and your competitive position should allow you to sell more. Or your sales price is too high and your clients are decreasing their purchased quantities.

MARKET SHARE (% of sales)

Approximate market share in units in %.

TURNOVER

Approximate sales turnover in local currency.

MARKET SHARE (% turnover)

Approximate market share value in %.

SALES PRICE

Real current price, in local currency

ADVERTISING

Approximate advertising budget, in local currency.

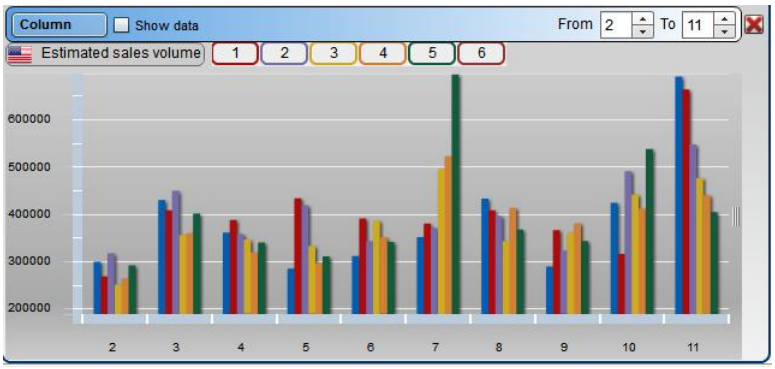
R&D

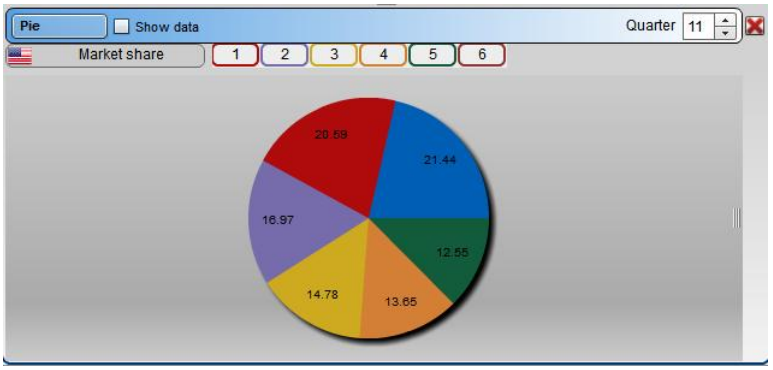
Approximate Research & Development expenses in the headquarters budget, in US$. Although this expense is only charged to the headquarters, The R&D influences the three markets.

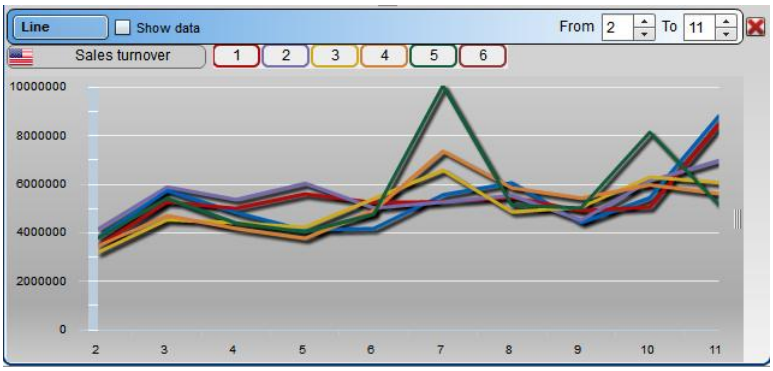
ISO STATUS
Situation of ISO 9000 certification in this company

YOU CAN GET CHARTS EXTRACTED FROM «MARKETING" REPORTS

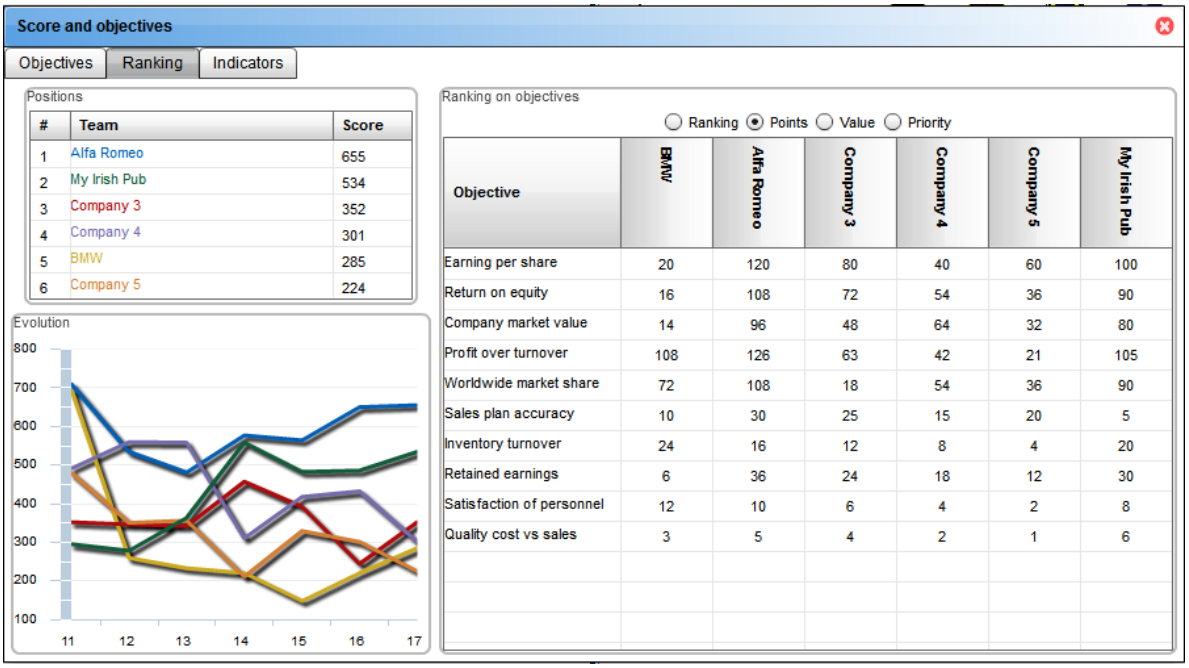
Simply "click" on areas of figures which appear in red in the reports displayed on the screen when the mouse points to this value or the icon "graphic" which is on the line results







5. Game's score & objectives



#	Team	Score
1	Alfa Romeo	655
2	My Irish Pub	534
3	Company 3	352
4	Company 4	301
5	BMW	285
6	Company 5	224

Objective	BMW	Alfa Romeo	Company 3	Company 4	Company 5	My Irish Pub
Earning per share	20	120	80	40	60	100
Return on equity	16	108	72	54	36	90
Company market value	14	96	48	64	32	80
Profit over turnover	108	126	63	42	21	105
Worldwide market share	72	108	18	54	36	90
Sales plan accuracy	10	30	25	15	20	5
Inventory turnover	24	16	12	8	4	20
Retained earnings	6	36	24	18	12	30
Satisfaction of personnel	12	10	6	4	2	8
Quality cost vs sales	3	5	4	2	1	6

This report will be available at the end of quarter 12..

TEAMS' POSITION

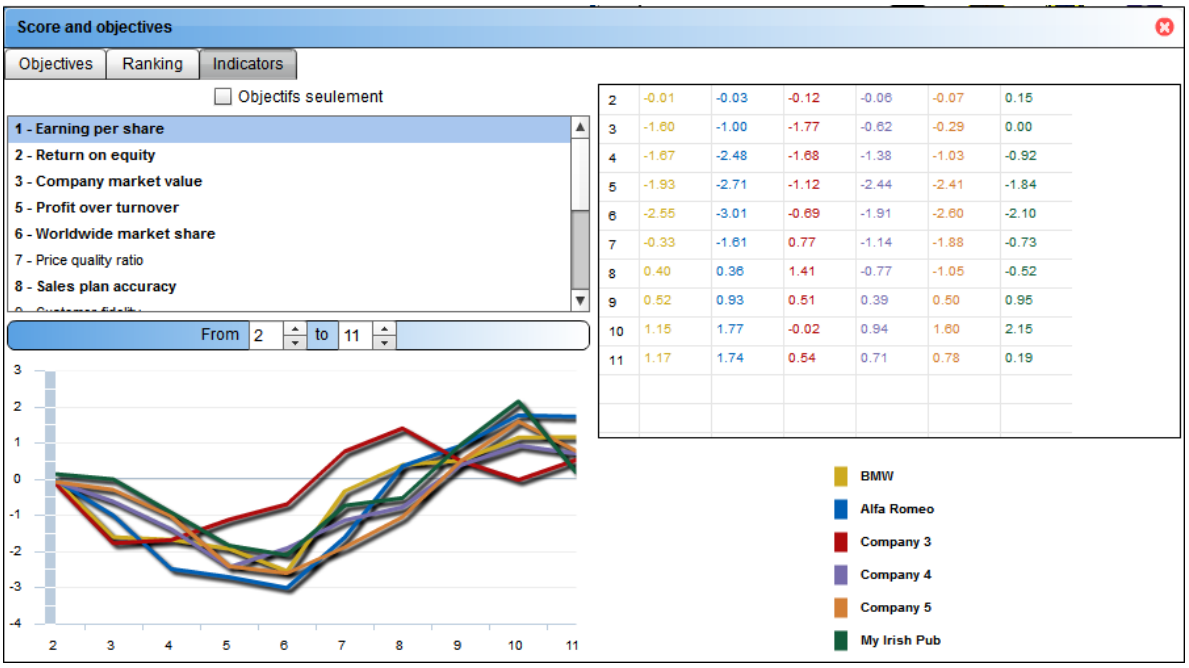
The rankings are based on rules defined in the section "Objectives and Strategy." You see in the column "score" the number of points scored by the team after playing the last quarter. The evolution of the ranking is displayed in the graph.

POSITION ON OBJECTIVES

For the objectives active in this session you can see:

- The place obtained on each objective
- The points granted for this objective
- The value obtained on this objective
- The priority chosen by the team for this goal (1 = most important)

6. Objectives & indicators



2	-0.01	-0.03	-0.12	-0.06	-0.07	0.15
3	-1.60	-1.00	-1.77	-0.62	-0.29	0.00
4	-1.67	-2.48	-1.68	-1.38	-1.03	-0.92
5	-1.93	-2.71	-1.12	-2.44	-2.41	-1.84
6	-2.55	-3.01	-0.69	-1.91	-2.60	-2.10
7	-0.33	-1.61	0.77	-1.14	-1.88	-0.73
8	0.40	0.36	1.41	-0.77	-1.05	-0.52
9	0.52	0.93	0.51	0.39	0.50	0.95
10	1.15	1.77	-0.02	0.94	1.60	2.15
11	1.17	1.74	0.54	0.71	0.78	0.19

You can select one of the objectives set for the session and see the value achieved for each team and the graph of its evolution.

In addition to the objectives, you also have access to indicators of "benchmarking" that allow you to compare your performance with your competitors.

V. OBJECTIVES & STRATEGY

1. Ranking criteria

Priority	N°	Objective	Weight	Optimization	Based on
Top	1	Earning per share	2	Maximum value	Last quarter
2	2	Return on equity	2	Maximum value	Last quarter
3	3	Company market value	2	Maximum value	Last quarter
4	5	Profit over turnover	3	Maximum value	Last four quarters
5	6	Worldwide market share	3	Maximum value	Last quarter
6	8	Sales plan accuracy	1	Minimum value	Average since quarter 12
7	14	Inventory turnover	1	Minimum value	Average since quarter 12
8	17	Retained earnings	2	Maximum value	Variation since quarter 12
9	25	Satisfaction of personnel	1	Maximum value	Last four quarters
Bottom	31	Quality cost vs sales	1	Minimum value	Average since quarter 12

Depending on the choice of the control of the game, you will target 1 to 10 objectives.

In the list imposed for this session, you will rank the objectives by decreasing priority, shifting rows up or down.

In each quarter, the model will calculate the value obtained on each of these objectives and results will be the basis for ranking of the game.

The facilitator may request that the classification is based

- The value of the last quarter played
- On the average of the last four quarter
- On the average for the quarter 12 that is to say, since the opening of the game

It is possible that the animator sets a different weight for each criterion.
This weight, combined with the priority chosen by you on each goal, will be used to award points.

The sum of points will be used to establish the ranking of the game

The following list gives the definition of possible objectives. You check in the menu "Objectives" the list which is applied to your session.

#	Objective			Definition
1	Earnings per share	+	G	It is the sum of earnings after tax of the headquarters and affiliates (corrected of the currency's value), for the last four quarters, divided by the current number of shares
2	Return on equity	+	G	It is the sum of earnings after tax in the three countries, during of 4 last quarters, divided by the equity such that it was during these quarters
3	Market value of the company	+	G	It is the product of the number of released shares by the value of this share in stock market
4	Stock market value of share	+	G	Unit value of the share in stock market at the end of the quarter
5	Profit on sales	+	G	Sum of net benefits after taxes in the three countries divided by the turnover with the influence of currencies of the quarter
6	Total market share	+	M	It is the global market share(sum of the three countries) in the quarter.
7	Quality/Price ratio	+	M	Ratio expressing the quality in connection with the price of products sold during this quarter
8	Accuracy of sales forecast	-	M	It is the sum of difference in absolute value, in the three countries, between estimates of the plan of sales of the quarter and values realized
9	Customers fidelity	+	M	% residual client fidelity after the influence of the evolution of prices, the quality and the ratio quality/price
10	Competitive ratio	+	M	Indication of performance of a team against its competitors, used to share the market not assigned to faithful clients
11	Performance at export	+	M	Share of sales realized to the export
12	Continuity in manpower management	-	P	It is the sum since the quarter 2 of decrease of personnel while in the same period of at least equivalent hiring have been realized. This penalizes the enterprises that hire after layoffs or that lay off after hiring
13	Variances	-	P	It is the difference between the complete real expenses and the standard cost
14	Inventory moves	-	P	Total quantity of stocks at the end of the quarter Q - 1 divided by sales of the quarter Q
15	Hours lost	-	P	Hours of manpower lost by lack of production
16	Usage rate of the machines	+	P	% produced quantities Vs the capacity of machines available for the production
17	Retained incomes	+	F	It is the evolution of the position «retained income» since the second quarter until the last played quarter, for the headquarters .
18	Treasury management performance	-	F	It is the sum of absolute values of the balance of the treasury in each of countries, corrected by the rate of the currency, increased of short term loans
19	Average tax income rate	-	F	It is the sum of taxes on benefits paid in each country divided by the benefit before tax
20	Liquidity ratio	+	F	=(inventory value + placements + treasury) / debts short term
21	Solvability ratio	+	F	Total equity / total debts
22	Independence ratio	+	F	Total equity / long term debts
23	Personnel turn-over	-	S	% resignations divided by the total number of workers
24	Absenteeism	-	S	% the labour absentees on total of the personnel in manufacturing

25	Global personnel satisfaction	+	S	Composite index based on 19 criteria evaluating the totality of reactions of the personal against your salary policy, conditions of work and the security of the employment.
26	Average salary cost in the quarter	-	S	Total salary expenses of the quarter divided by the number of persons in production..
27	Number of personnel claims	-	S	Number of raised claims during of the quarter
28	Purchasing power of personnel	+	S	% evolution to the net purchasing power of the personnel since the quarter 2, mixing all forms of remuneration and after influence of the inflation
29	Days/Man on strike	-	S	Number of days/man lost in the quarter to go on strike
30	Total COQ + CNQ	-	Q	Total cost of actions of quality and costs linked to the non - quality
31	Quality actions cost Vs sales	-	Q	Ratio between the cost of actions of quality and the value of sales
32	Customers claims	-	Q	% complaint of clients divided by quantity sold
33	Scraps	-	Q	Total of scrapped quantities linked to quality defects

2. Objectives weighting

Let's consider a universe where **NT** teams are competing.

For each objective criterion, you choose a **WEIGHT** that represents the priority you assign to your own strategy. In a session where you aim to each **X** objectives, this priority is in the range from:

Priority 1 : Highest priority : **WEIGHT** = X
...
Priority X : Lowest priority : **WEIGHT** = 1

You can only assign the same priority once to a criterion.

For each criterion, the model will compute the number of points attributed for your performance against your competitors:

1 for the worst team
NT for the best team

NT being the number of team in competition.

The "scratch" score is based on the sum of points allocated for those X criteria.

The "weighted" score is based on the product of the "scratch" points by criterion multiplied by the priority you have selected. This rule puts emphasis on success when reaching the main objectives and penalizes unplanned performance.

Example:

The session is organized for 5 companies. The number of aimed objectives is 6.

You have put as first priority " Return on Equity "", by granting it a weight of 6.

You are second on this criterion to which controls it the game has attributed a weight of 3. You obtain to the " scratch " classification of 4 points for your second place.
To the weighted classification, you will obtain 4 x 3 x 6 = 72 points.

You choose therefore by the quarter 12 priorities that you are going to target all along the game. You will be able no longer to modify them thereafter. In beginning of quarter 13 you will know priorities chosen by your

competitors. The " Report on the competition " gives you the situation of all teams on open objectives during this session and allows you therefore to analyze your strengths and your weaknesses.

To fix them your choice, analyze well the meaning of the X criteria of classification. Adopt and hold - you to a policy that corresponds to your priorities them most important.

This mode of classification favours therefore the continuity. These that succeed " by chance " on some criteria that they had neglected, are penalized. These that focus with continuity on their main objectives , are favoured. Outside of your own objectives, follow the result of your competitors. A place taken on one of their important objective can make them lose several points !

By analyzing the meaning of criteria, you will observe that some are criteria are related or antagonist . By distributing your priorities, you will be able to spread risks or on the contrary to concentrate them on related criteria.

You could have thus earn more .... or to lose better.

3. Strategy definition

By ranking objectives you have chosen priorities you will target throughout the game.

You will also need to communicate to the control of the game, the policy you intend to follow to achieve your goals in the areas:

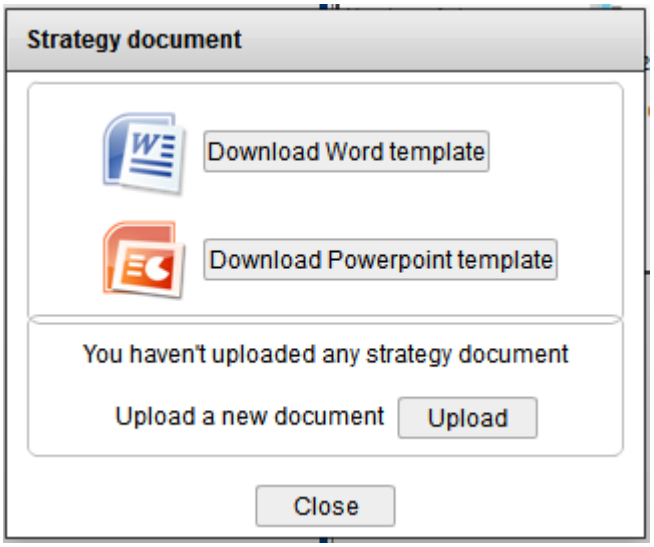
- **COMMERCIAL** pricing, advertising, R & D, distribution ...
- **PRODUCTION** investments, storage?
- **FINANCE** method of financing, dividends?
- **QUALITY** materials, QA control ...
- **PERSONNEL** hiring, wages, social ...

For this you will analyze the past, and define with your TEAM your future strategy and plans that support it. (before the end of the quarter 12!)

Remember that to achieve your goals, it will require a balance between all your businesses and in particular ensure the quality and personnel management policy.

Some criteria so that your strategy is well thought:

- The strategy must provide for a medium to long term without neglecting the actions you have to lead quickly to start to apply your policy.
- Your strategy should give an overview of your policies in various areas of your management process
- We should find the actions you plan to do (WHAT) but as far as possible with a quantification (HOW MUCH) and positioning in time (WHEN)
- If possible, consider alternatives especially to be able to respond to the strategy of your competitors and thus counter the risks that you perceive



VI. DECISIONS MAKING

1. Decisions data entry & decisions status

At the opening of a new quarter, the decisions of the previous quarter are renewed:

- with the exception of salary decisions, release of shares or investment in capacity ...
- so you can change some decisions without having to enter all values

Decisions are in status "**INITIALIZED**". The decisions of the past quarters cannot obviously be modified.

DECISIONS DATA ENTRY

Simply enter a new value by introducing it into the appropriate field.
Take the example of a change in sales price.

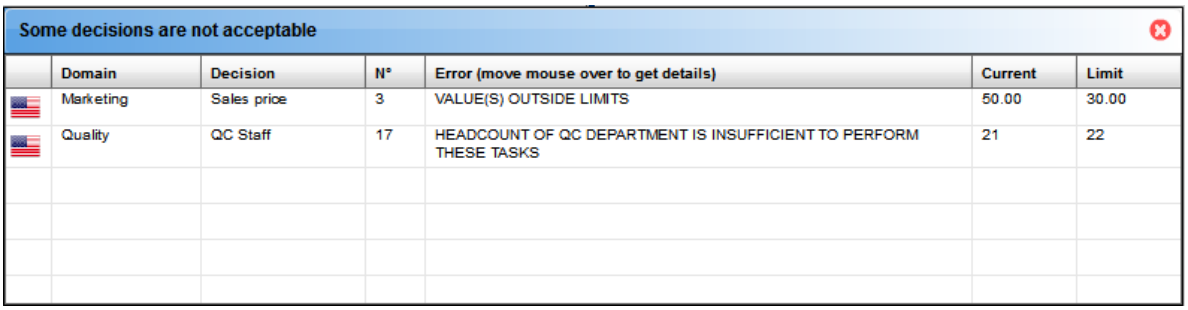
Before modifying the value is displayed on a light gray background

After the typing, with the "Enter" or "Tab", the value is taken into account and is displayed on a "blue-gray" background.
It is recorded in the database of the game, **even if it has an error**!
These decisions are in status "**RECORDED**"

You can enter several decisions in various menus before submitting them to a control.

To verify the decisions, use the

If the decision contains an error, it will appear on a red background, a ! will appear on the button bar and an error window or explain the anomalies detected:



Some decisions are not acceptable

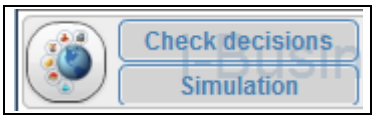
	Domain	Decision	N°	Error (move mouse over to get details)	Current	Limit
	Marketing	Sales price	3	VALUE(S) OUTSIDE LIMITS	50.00	30.00
	Quality	QC Staff	17	HEADCOUNT OF QC DEPARTMENT IS INSUFFICIENT TO PERFORM THESE TASKS	21	22

These decisions are in status "**ON ERROR**"
The list of errors is at the end of the Guide.
By clicking on the line in error, you open the input menu where you can change the decision. Correct the error and rerun

After correction, the value will be displayed again on light gray background. and these decisions are in status "**VERIFIED**"

In the button bar of decision making, you will see a red exclamation point indicating that an error exists in this domain.

DECISIONS DATA ENTRY IN RESULTS SIMULATION MODE



To perform a simulation of results, you choose from the tool menu "simulation".

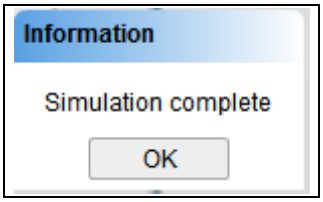
In the window "Reports" , a watermark "**SIMULATION**» will appears.

You modify the decisions you want to submit the simulation calculation. Do not forget to enter your "Sales plan"

You correct any errors detected by

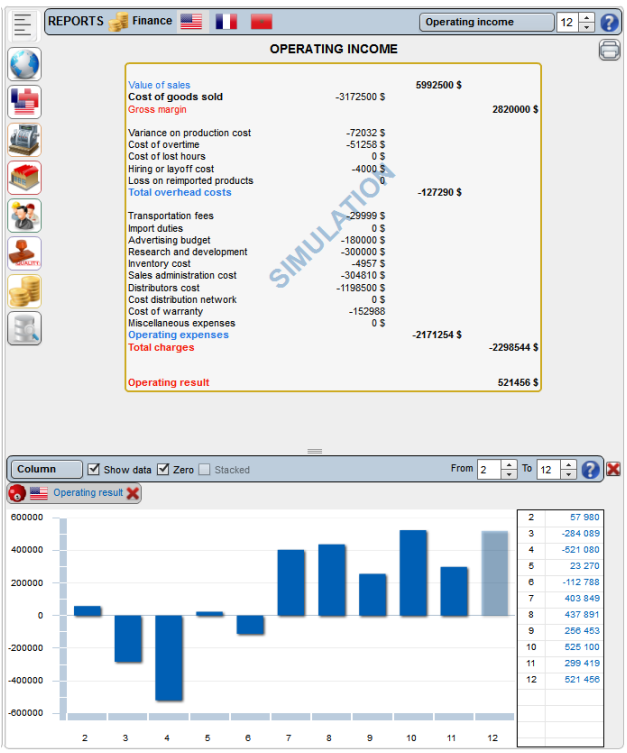
IF THERE REMAINS ERROR THE SIMULATION CALCULATION WILL BE REFUSED!

To launch the calculation, use the button « Simulation ». If the calculation succeeds, you receive the following message and you can consult the various reports on which you will see the watermark "SIMULATION"



You can then further modify one or more decisions and start a new calculation

.



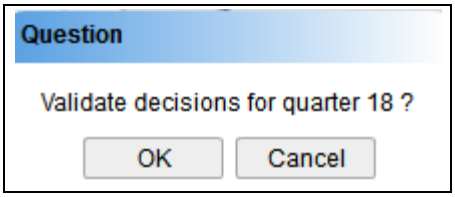
SENDING THE DECISIONS

Your decisions are prepared and contain no error

You have completed your work WHILE RESPECTING THE TIME LIMIT.

You report to the control of the game that your decisions are ready by clicking on

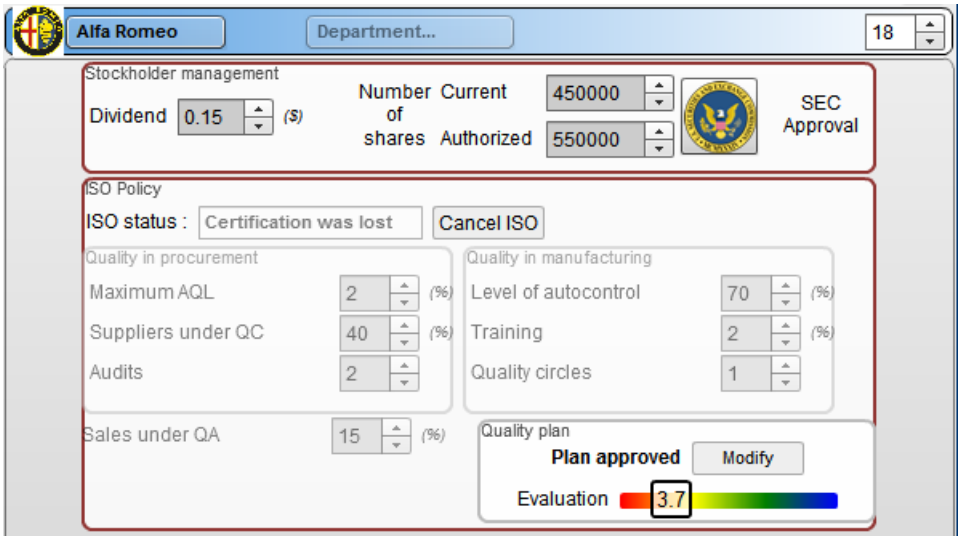
You confirm , then your decisions are then made available to the control of the game and go to status "**SENT**".



If control of the game has not yet processed your decisions, you can cancel the sending by

After modification, you will send again your decisions. When control of the game will start processing the quarterly model, decisions will go into status "**LOCKED**" and will no longer be changed.

2. Decisions at corporate level



SHAREHOLDERS RELATIONS

- **DIVIDEND PER SHARE**

It is the dividend allocated in the quarter to shareholders for each share, defined in US$.

- **NUMBER OF SHARES AUTHORIZED**

It is the TOTAL amount of authorized shares of your company.
If you want to change this authorization, change the value and get the "**SEC**" approval.

- **CURRENT NUMBER OF SHARES**

It is the TOTAL amount of released shares of your company.

ISO POLICY

You can (but it is not mandatory) impose to your group factories to be ISO 9000 certified

You may also manage your decisions on the quality menu without implementing the ISO 9000 certification process.

All these decisions can be planned in a **Quality Plan**, resulting in minimum that you impose on each of the decisions relating to quality.

If the ISO module is enabled, and once you decide to go for ISO 9000, you will have to define what is your "quality plan" and have it validated.

This plan should be studied so that it leads you to a quality and cost consistent with your business strategy.

You will need some time to prepare for your first certification (about 6 months) and undergo a "Certification Audit". This period will allow you to adjust your quality staff to the tasks arising from your decisions.

You will set yourself the values of your plan as they should be "cruising speed". If you can not reach them immediately due to lack of resources, ISO certification could be delayed.

The alternative is to change these minimum taking into account your ability to meet them. Be aware that these are decisions that produce the effects, not only obtaining the ISO certification!

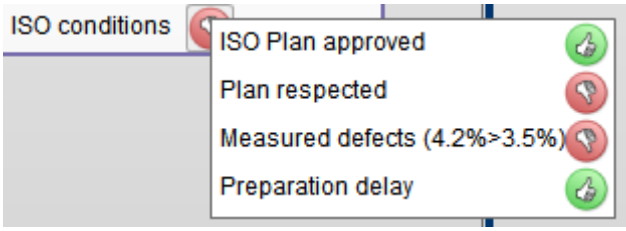
TO START THE ISO 9000 CERTIFICATION PROCESS

Use the button « **Start ISO certification** »

TO CANCEL THE ISO 9000 CERTIFICATION PROCESS

Use the button « **Cancel ISO** »

ISO 9000 CONDITIONS



You must comply with four conditions to obtain the ISO 9000 Certification:

- The preparation period of six months must have elapsed since the quarter where you start the ISO
- The Quality Plan was "signed" by the ISO auditor
- "Quality" decisions meet ALL the thresholds defined in your Quality Plan
- The manufacture of the previous quarter generated defects exceeding an acceptable threshold (3.5%, which is still quite high)

ISO STATUS

The ISO process includes several steps:

- ISO not decided
- ISO in progress (must be 6 months before undergoing the first audit)
- ISO delayed
- ISO Certification Audit
- ISO refused: audit has detected that a condition was not met
- ISO Accepted : Audit Certification or Recertification was successful
- ISO Lost: at least one condition is breached

- ISO Cancelled: you stopped the ISO 9000 process

To get the approval of the Quality Plan, after having introduced, you are requesting approval. It will be granted or not by the Auditor ISO

Certification audits plan

You know the ISO audits that you have made (and paid ..) as well as audits planned for the next 4 quarters.

QUALITY PLAN CONTENT

These are quality standards that you impose at your corporate group level.

There are lowest and highest levels of quality that your Quality decisions must respect. Your "Quality Plan" should be chosen in line with your overall strategy.

RAW MATERIALS QUALITY

- **AQL MAXIMUM**

This is the highest level of material defects that can be delivered by your suppliers (in%)

- **% PURCHASING UNDER QA**

This is the lower level accepted for the % of providers working in Quality Assurance

- **NUMBER OF YEARLY SUPPLIERS AUDIT**

Minimum number of annual audits at suppliers in QA

MANUFACTURING QUALITY

- **% OF PRODUCTION UNDER AUTOCONTROL**

This is the minimum level accepted for the% of the components subject to autocontrol by the worker

- **MINIMUM RATIO TRAINING VS COMPENSATIONS**

This is the lower level accepted for the% of time devoted to workers training

- **MINIMUM ATTENDANCE TO QUALITY CIRCLES**

This is the lower level accepted for the annual number of Quality Circles involving a worker

FINAL QUALITY

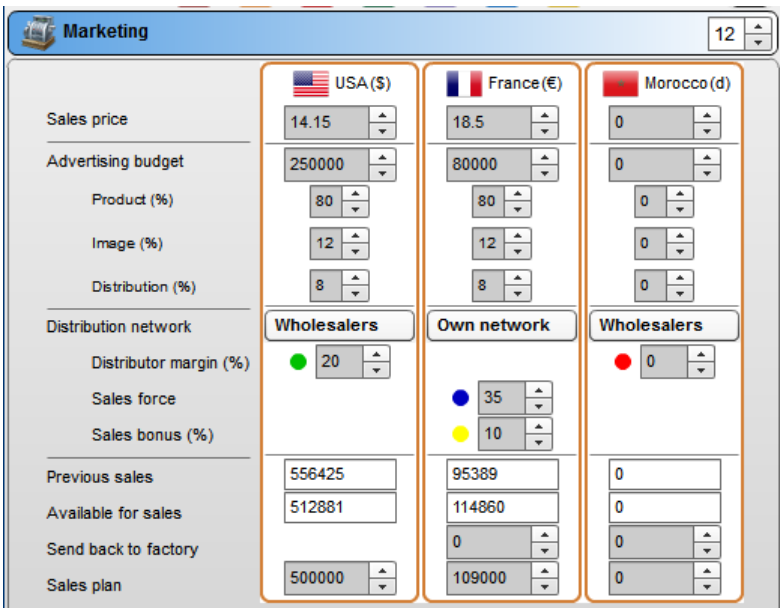
- **MINIMUM SALES UNDER QUALITY ASSURANCE**

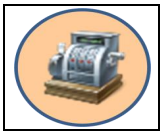
This is the lower level accepted for the% of finished products undergo a final inspection before sale

QUALITY PLAN ASSESSMENT

When you select one of the elements of quality plan, you will see the progress on the scale ranging from red to blue.
You will also see a level corresponding to the combination of the different values of the plan.
As a condition of obtaining ISO 9000 certification is to reach a minimum threshold on this scale.

3. « Marketing » decisions





- **SALES PRICE**

Sale price decided for this market, in local currency. To be present on a market you must give a sales price value and offer goods available for sale.

- **SEND BACK TO FACTORY**

For foreign countries only, it is the amount of stock that you want to return to the USA to be sold over the next quarter

- **ADVERTISING BUDGET**

Advertising budget in the quarter in each country, in local currency

This budget can be split between three axis (in %):

- product support
- company image support
- distribution support : this is the% of the advertising budget for supporting your distribution system, especially when you change it.

- **DISTRIBUTION NETWORK**

Type of selected distribution network

Distributors (wholesalers)
Exclusive agents
Privately owned network

- **DISTRIBUTION MARGIN**

For wholesalers and exclusive agents, this is the % of sales price returned to distributor.

- **SALES FORCE**

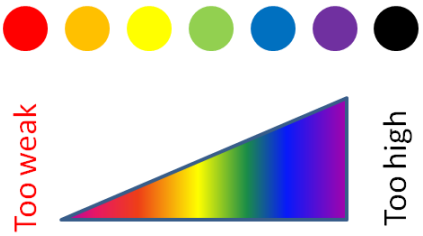
This is the number of salesmen in your OWN NETWORK in this country. The greater the number, the more their sales territory is narrow and facilitated the sale

- **SALES BONUS**

For your own network, % of bonus apply on salesman salaries . The effectiveness of your distribution will own combination of sales territory and bonuses.

Colour indicators on decisions level

The level of distributors margin or the size of sales force & salesmen bonus are evaluated with a colour bullet varying from red to black. You can select a "economical" level or an "aggressive level".



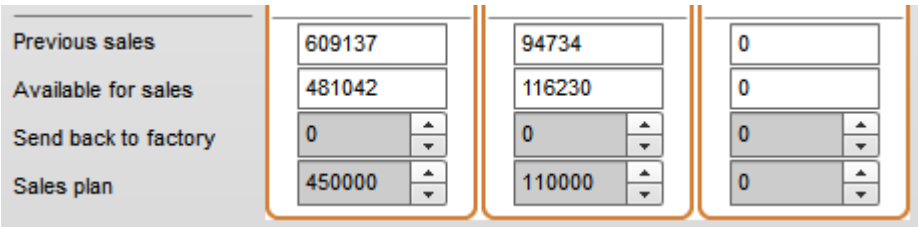
SALES VOLUME EXPECTATION

These forecasts are used to produce a simulation calculation of results.
The menu tells you:

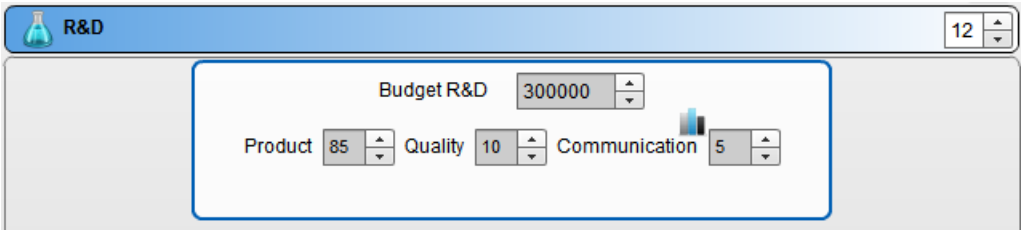
- Sales of previous quarters
- Inventory available for quarter sales
- Sales expected in this quarter

- **SALES PLAN**

You enter the amount of sales hoped for, without exceeding the available stock of course!. You can introduce this plan for 1 to 4 quarters and launch simulation IF THE DECISIONS OF SUCH QUARTERS ARE ERROR FREE.



4. "R&D" decisions



- **RESEARCH & DEVELOPMENT BUDGET**

R&D budget in US$, charged only to headquarters, but influencing all markets.

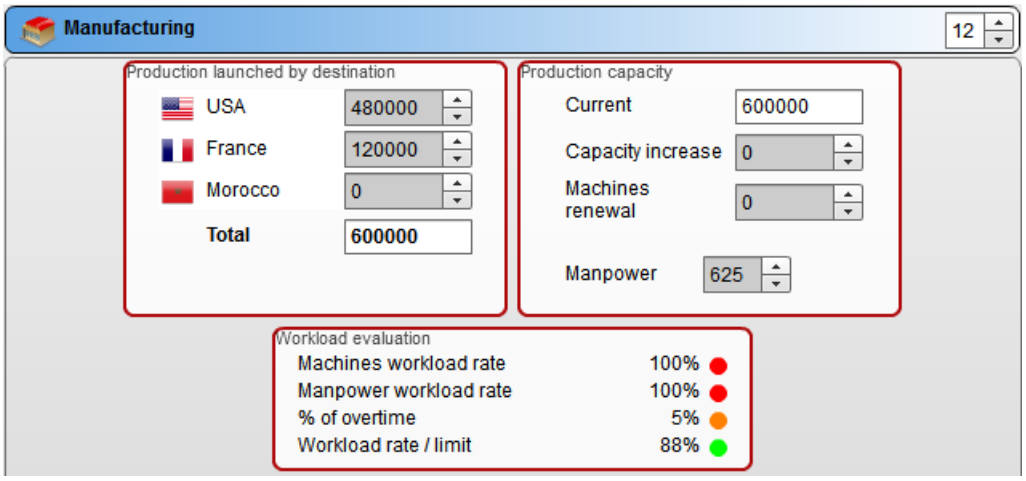
This budget can be split between three axis (in %):

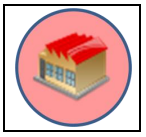
- product enhancement
  (it will influence the positioning of product and improve its cost). These improvements will play on the sophistication of the product and therefore its value perceived by the customer, and on improving its manufacturing process, resulting in cost reductions

- intrinsic product quality (influence of design on quality)
  This is the% of R & D budget to improve the intrinsic quality of your product. This is only part of your quality policy which will also cover the materials and manufacturing

- marketing communication improvements
  This is the % of R & D budget to improve the advertising. It will act as a multiplier effect of your advertising dollars.

5. Manufacturing decisions





PRODUCTION LAUNCHED BY DESTINATION

- **PRODUCTION PAR DESTINATION**

It is the production of the quarter, expressed in units, broken down by country of destination.

It is also the quantities exported to MOROCCO and FRANCE, deducted from the total production of the quarter. These quantities will be available for sale next quarter. Obviously, the quantities exported may not exceed production.

- **TOTAL PRODUCTION**

Sum of output by destination decided this quarter, expressed in units. It must not exceed the current production capacity.

PRODUCTION CAPACITY

- **CURRENT**

This is the total installed capacity you could use for the production of this quarter. This value can be reduced. It results from the capacity of the previous quarter, plus any investment capacity of the previous quarter.

- **CAPACITY INCREASE**

It is the increased capacity that will be added to the existing capacity to be used for the production of the next quarter.

- **RENEWAL OF MACHINES**

This is the modernized machine capacity during the quarter expressed in units of capacity that are renewed. The machine age will be reduced to 0 for this renewed capacity.

- **MANPOWER**

This is the direct labour available for production of the current quarter.
Department staff quality is not included in this number
You may be limited by the available availability on the labour market.

EVALUATION OF WORKLOAD

- **MACHINES USAGE RATE**

in % is the ratio between total production and the current capacity. Obviously limited to 100%!

- **MANPOWER USAGE RATE**

in % is the relationship between actual hours and NORMAL hours regardless of possible overtime

- **OVERTIME**

in additional hours added to normal hours. It is limited (default to 20% but this may change ...)
Overtime are subject to extra pay (default 50%)

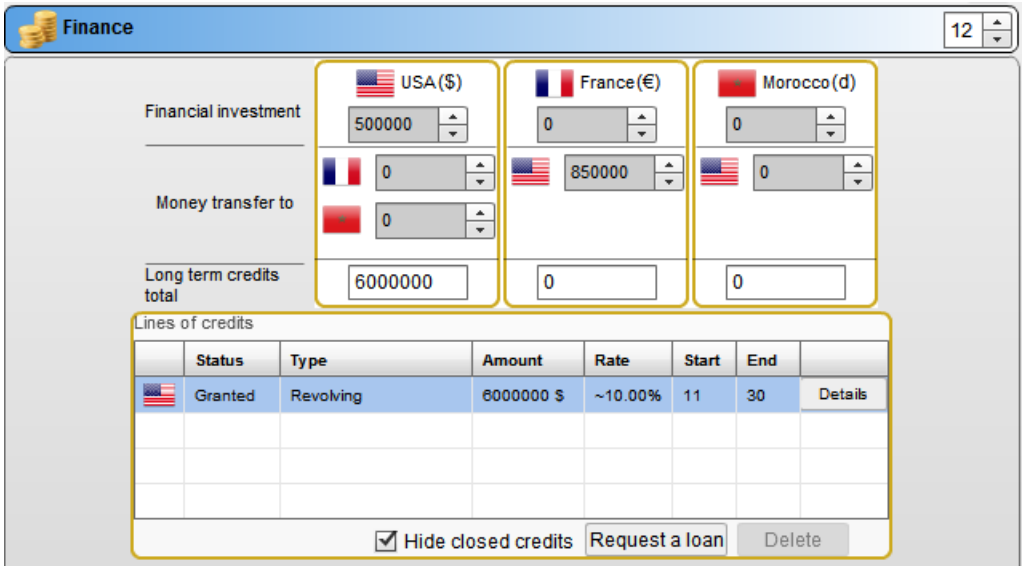
- **USAGE RATE / LIMIT**

in % is the ratio of total hours used and hours available taking into account overtime possible.
Obviously limited to 100%!
If the limit is reached, you will either
  - reduce the quantities produced
  - hire staff

NOTE THE RATINGS OF CHARGE

Utilization rates shown for the quarters "simulated" may be approximate, since the simulations renew elements of the previous quarter: fault level, productivity, and influence of volumes ... etc. It should come as no surprise that the production can be automatically bound when computing simulation or while processing the 'model' quarterly.

6. Financial decisions



- **FINANCIAL INVESTMENTS**

This is the TOTAL amount of investments in each country in local currency. (And not the variation in the quarter)

- **MONEY TRANSFER to**
  - France or Morocco : Funds exports (dollar) from the U.S. to overseas
  - U.S.: from France or Morocco to the U.S. in local currency

- **LINES OF CREDIT**

This is the list of lines of credits recorded in that country.
By default appear only active lines in the quarter. You can display the lines closed by checking or not the "Hide closed credits"

In the table are displayed:

- **The status of the credit line**

  GRANTED
  The credit line was granted by the banker and is active. If it was used in the previous quarter it cannot be cancelled.
  REQUESTED
  The credit line was requested by the company but has not yet been signed by the banker
  COMPLETED
  The credit line was repaid and / or expired

- **The type of reimbursement**

  REVOLVING
  the credit line may be used freely up to the amount. Withdrawals and refunds are free
  REPAYMENT AT TERM
  the credit line can be used from the agreement and its terms until the next quarter (excluding any prepayments)
  FREE REFUND
  the credit line can be used from the agreement and its terms until the next quarter and be partially reimbursed without penalty
  FIXED PAYMENT

Principal and interest are repaid by quarterly deadlines fixed

- **The credit amount**

This is the amount requested / granted when opening credit

- **Credit Rate**

This is the annual rate agreed. If the rate is variable it is marked with ~

- **Start**

This is the opening quarter of the line of credit from which money is received by the borrower

- **End**

This is the closing quarter of the credit line.
Full refunds will be completed (if it is not already done) in the following quarter

By pressing the "**Details**" button, you will know the detailed situation that this credit

The "**Delete**" button is used to cancel a line in the status "**Requested**" or "**Granted**" and for the current quarter or subsequent quarters. A credit line that has been already used cannot be cancelled.

TO ASK FOR AN ADDITIONAL CREDIT, PRESS ON « ASK A LOAN »

- **TOTAL ACTIVE CREDITS**

This is the TOTAL amount of credit lines used during this quarter.

7. Requesting a new credit

To finance the activity of your business, you have several ways:

- The equity capital and reserves
- The long-term debt
- The short-term borrowings

For long-term loans, you must apply to the bank for lines of credit, in one or more countries.

Initially in the game, you have a revolving credit of (6000000 $) in the (USA). You can perform any movement on this loan, borrow or repay, without the total borrowed exceeding the credit line which was given you.

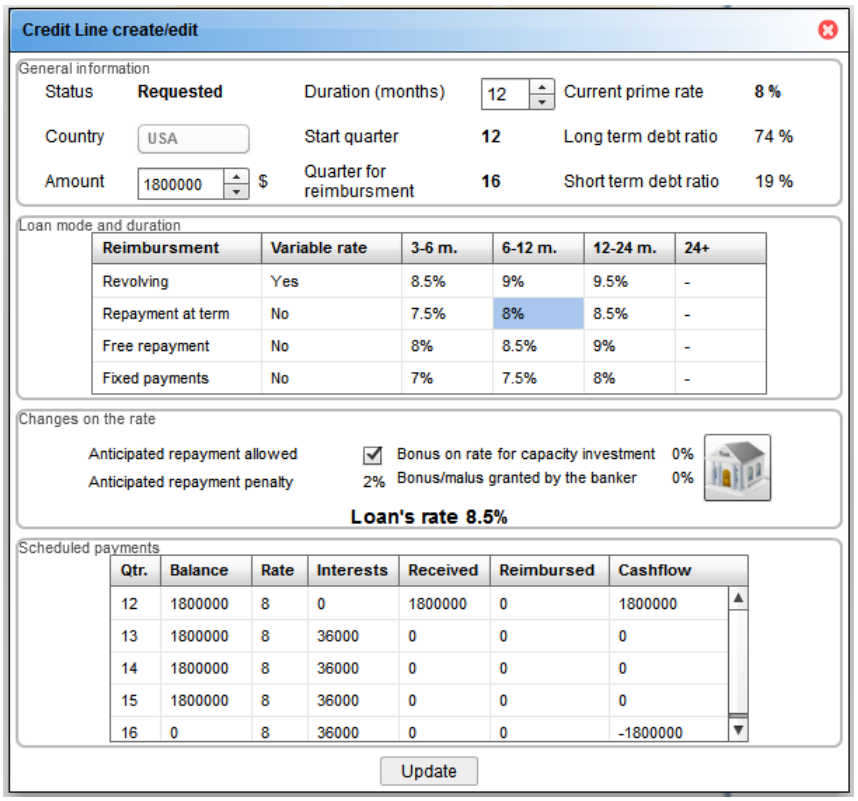
If you want to expand or open a new credit line, you have to ask the banker, who will ask for justification:

- Objectives
- How to use borrowed funds
- Financial analysis of the company
- Return on investment ....

When you enter your decisions in a level of borrowing that carries them beyond the granted level, the program will signal the anomaly.

You can, without waiting for contact with the banker, apply for new credit line. It will be accepted by the machine, allowing you to perform simulations result with the level of borrowing planned.

HOWEVER, THIS CREDIT REQUEST WILL BE TAKEN INTO ACCOUNT BY THE MODEL AFTER APPROVAL OF THE BANKER OTHERWISE IT WILL BE CANCELLED !



You have requested a new credit line in this displayed country.

- **Select the country**
- **Enter the amount in the currency of the country**
- **Click the cell in the table corresponding to the selected type of reimbursement and the loan term**

  If the rate displayed in the box is in (), this term is not accepted because your debt in the short term does not allow it.

  If **fixed**, the rate is based on the prime rate of this financial quarter, in this country. It will remain fixed throughout the loan.

  If the rate is **variable**, it will be calculated quarterly based on the "prime rate" of this quarter + a fixed rate as a function of the loan duration. The rate displayed is the current quarter value.

- **Possibly adjust the credit period**
  Without exceeding the expected duration in the column selected, this allows you to adjust the duration. This will happen if the banker wants to limit its risk.

Environment & financial status

- **Current prime rate**
  The prime rate set in the "market report" is the basis for variable rate and fixed rates offered at the conclusion of the loan.

- **Long term debt ratio**
  This is the long-term debt the company reported Vs equity

- **Short term debt ratio**
  This is the short-term debt the company reported Vs equity

Loan rate adjustments

- **Anticipated repayment allowed**
  For credits with repayment at term, you can use the check box.
  The rate will be reduced but you will pay a penalty on the part repaid.
  Credits reimbursement for "revolving" is free and credit remains available up to his end.

  For loans to "Free repayment", you can make a refund at any time without penalty but irreversible.

  For loans to "Fixed payments", no early repayment is possible.

- **Anticipated repayment penalty**
  For credits with repayment at term, if you pay in advance, it is the% penalty applied to the refund.

- **Bonus on rate for capacity investment**
  If, IN THE SAME QUARTER, you have recorded PREVIOUSLY an increase in capacity, you receive a bonus rate. (Default is -0.5%)

- **Bonus / penalty granted by the banker**
  Depending on the value of your financing project , the banker will give you a bonus (low) or a malus depending on:
  - The estimated risk
  - The nature of the project funded
  - The quality of the project

  A late application leaving no time to prepare the documents requested may result in granting credit with a penalty.

LOAN'S RATE

Rate resulting from your choice and bonus / penalty applied

USE THE « CREATE » BUTTON TO RECORD YOUR REQUEST

Scheduled payments

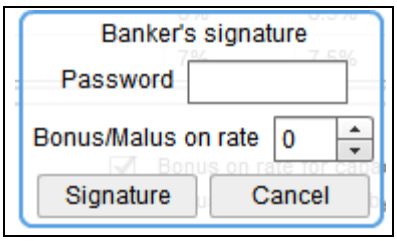
Scheduled payments

Qtr.	Balance	Rate	Interests	Received	Reimbursed	Cashflow
11	6000000	10	0	6000000	0	6000000
12	4500000	10	150000	0	1500000	-1500000
13	4500000	10	112500	0	0	0
14	4600000	10	112500	100000	0	100000
15	4600000	10	115000	0	0	0
16	4600000	10	115000	0	0	0

You see the schedule giving the cash flow where you can enter your data reimbursements

- **Quarter :**
  Each quarter in which the credit would be active + the quarter final repayment
- **Balance :**
  This is the amount borrowed in this quarter. It is on this basis that interests, paid in the following quarter will be calculated. For a revolving credit balance it can move up or down. For other credits, the balance decreases gradually as the refund is made.
- **Rate :**
  Rate applied to this quarter on the "balance" amount
- **Interests :**
  Interest paid during the quarter
- **Received :**
  This is the amount collected by the company during this quarter. For a revolving credit facility, where you can enter the amount you wish to receive more of what you used in the previous quarter. For other credits, only the amount received at the opening will appear. The impact will be reflected in the balance
- **Reimbursed :**
  This is the amount reimbursed by the company during this quarter.
  For the current quarter and beyond, you can enter a new amount in three cases:
  - The revolving credit
  - The repayment at TERM with prepayment (with penalty)
  - Free reimbursement
- **Cash flow :**
  Combining what has been received and repaid

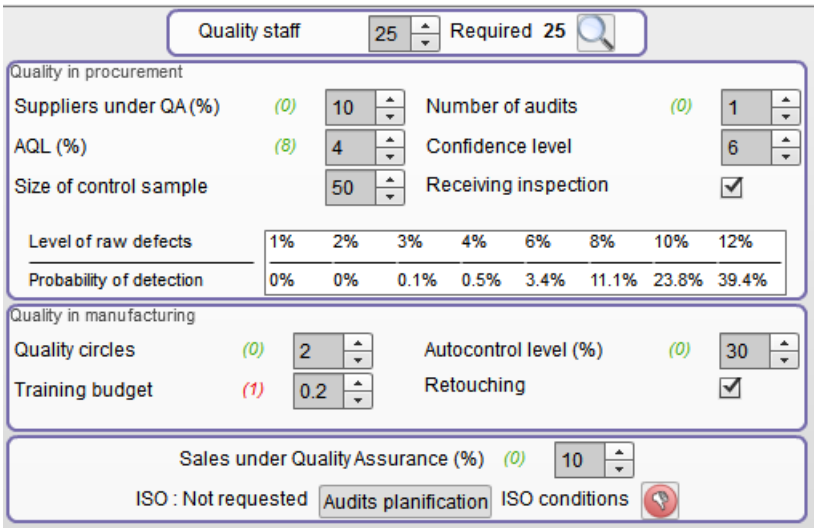
8. Credit approval



When the credit line is still in status "Requested" the button "Banker" will allow him, under his signature, to grant or deny credit, possibly applying a "bonus / malus" on the rate.

Note that if a credit request has not been granted at the end of the quarter, it may be deleted by the administrator of the game when processing the quarterly model, with predictable consequences on treasury...

9. Quality decisions



COMPLIANCE WITH QUALITY PLAN

If you start the ISO 9000 process (see the corporate decisions) you will see to the left field of the decision, the minimum or maximum limit imposed in your Quality Plan.

If you respect this limit, it will appear in **GREEN**.
If it is **RED**, you do not respect the limit, three cases are possible:

- You are still in the preparation phase of the ISO certification: no problem, you still have time to get ready and meet the limit
- You must pass a certification audit: it will be refused but you can request to delay the audit
- You were already certified ISO 9000: You will lose certification

RESPECTING CONDITIONS TO BE ISO 9000

Once you begin the process "ISO 9000", you define your "Quality Plan".

You'll need at least 6 months then two quarters to be ready for a first "Certification Audit".

To achieve this certification, you will have to meet four conditions:

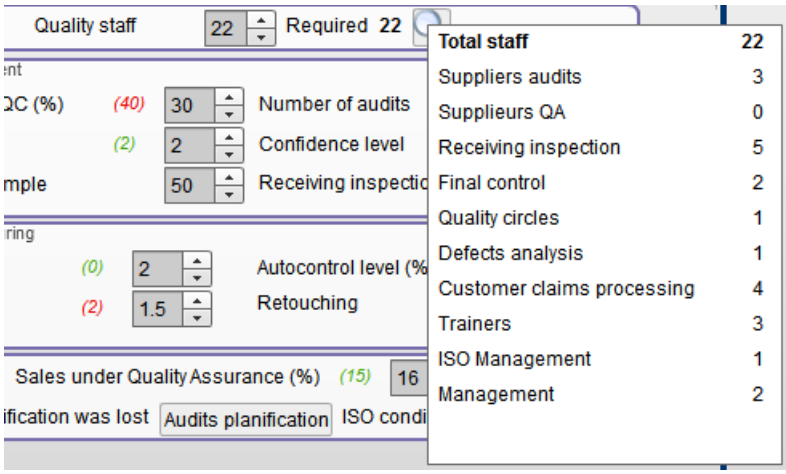
- Your Quality Plan was signed by the ISO auditor
- Your decisions meet the standards defined in the Quality Plan
- The level of defect in the previous quarter to the output of your production line is below a threshold unacceptable
- The period of six months for preparation has passed

On the menu a thumbs down on red background means you're not ready and he should probably delayed the audit. The thumbs-up on a green background means that the conditions are met. Click the thumb to see the respect of the 4 conditions.

Quality staff

Number of people needed to perform the various tasks linked to decisions of your quality management.

To know it use the "Required" button and you will be informed of the necessary staff.



The number of people who will be indicated is the minimum necessary. Nothing prevents you, based on your plan, to go beyond this recommendation.

If you increase the size of the staff "quality", the labour market may affect your ability to do so in a single quarter. It will therefore limit or postpone certain decisions for compliance with the limitation noted.

RAW MATERIALS QUALITY

- **% OF SUPPLIERS UNDER QUALITY ASSURANCE**

The percentage of suppliers under Quality Assurance defines the percentage of raw materials purchased under Quality Assurance. The AQ level insures a better regularity of the selected quality level. A raw material under AQ is more expensive.

- **NUMBER OF ANNUAL AUDITS/SUPPLIER**

It is the number of annual audits for each vendor under AQ. These audits are mandatory to insure that the Quality Assurance agreement with your supplier is correctly respected.

- **RECEIVING INSPECTION ACTIVE**

YES or NO if you use or not a receiving inspection by sampling

- **SIZE OF CONTROL SAMPLES**

That is the number of parts taken as sample for receiving inspection. The receiving inspection is destructive.

- **CONFIDENCE LEVEL**

It is the number of defective parts found at receiving inspection, in the sample, and from which the whole raw material lot will be rejected.

EFFICIENCY OF RECEIVING INSPECTION

Level of raw defects	1%	2%	3%	4%	6%	8%	10%	12%
Probability of detection	0%	0%	0.1%	0.5%	3.4%	11.1%	23.8%	39.4%

PROBABILITY TO DETECT SELECTED DEFECT RATE

It varies with the size of the samples submitted to destructive testing, the confidence level used and the fault level of the lot. The "POISSON LAW" gives the probability of detecting a defective batch according to the

decisions taken.

Vary your decisions and you will see the table of probabilities being adjusted.

If the receiving inspection is active, you will see a scale giving the probability of detecting defects. Your decisions should be consistent with AQL selected. You can choose to buy better materials (AQL low, but more expensive) without control or materials of lower quality but subjecting them to more control filter.

MANUFACTURING QUALITY

- **QUALITY CIRCLES**

Number of active Quality Circles.

- **TRAINING BUDGET**

% of time of workers dedicated to training.

- **% OF PARTS SUBMITTED TO AUTO CONTROL**

% of manufactured parts, checked on the production line by the workers. A detected defective part can be corrected by retouching but not with a 100% yield. Retouching consumes time and you can prefer to submit goods to final checks.

- **RETOUCHING IS ACCEPTED**

YES or NO according to your decision to accept or to refuse retouching on defects detected during manufacturing process.

FINAL QUALITY

- **% OF SALES UNDER QUALITY ASSURANCE**

It is the part of your sales that you realize under a Quality Assurance clause. This percentage corresponds to the parts submitted to final Q-check.

10. Poisson sampling method

This method defines the rules of sampling to accept or reject a sample taken out of a lot, according to the confidence level requested.

P : probability to accept a lot. It is the probability that the number of detected defects in the sample is equal or below the confidence level selected for the sampling plan. The calculation is done using the Poisson method.

Poisson function:

$$P_{rn} = e^{-np} (np)^r/r!$$

P_{rn} : Probability to have exactly r defects in a sample of size n

n : Sample size. It must be at least 16 and this size must be less or equal to a tenth of the whole lot.

p : Defects level % for the lot.
(This method assumes that the value is fewer than 10%)

c : Confidence level. Beyond c defects in the sample, it will be rejected.

The table here below gives the probability to find c defects or less in the sample

Example: n = 125 , c = 5 , defects = 4%

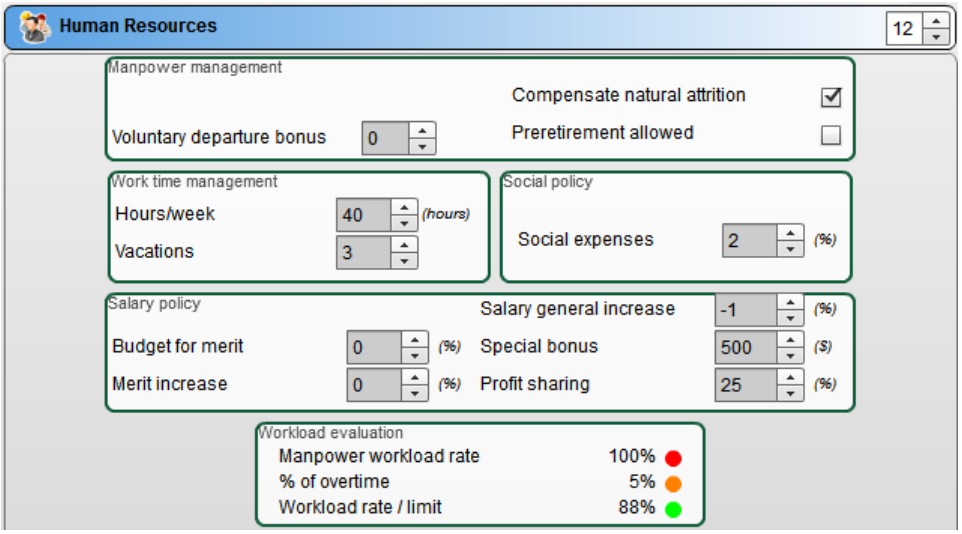
np = 125 * 0.04 = 5. The table shows that the probability to find 5 defects or less is 0.616.

Use the following table to know the Poisson coefficient

1000 x probability of c or fewer occurrences of event that has average number of occurrence equal to np

c np	0	1	2	3	4	5	6	7	8	9
0,2	819	982	999	1000						
0,4	670	938	992	999	1000					
0,6	549	878	977	997	1000					
0,8	449	809	953	991	999	1000				
1	368	736	929	981	996	999	1000			
1,2	301	663	879	966	992	998	1000			
1,4	247	592	833	946	986	997	999	1000		
1,6	202	525	783	921	976	994	999	1000		
1,8	165	463	731	891	964	990	997	999	1000	
2	135	406	677	857	947	983	995	999	1000	
2,2	111	355	623	819	928	975	993	998	1000	
2,4	91	308	570	779	904	964	988	997	999	1000
2,6	74	267	518	736	877	951	983	995	999	1000
2,8	61	231	469	692	848	935	976	992	998	999
3	50	199	423	647	815	916	966	988	996	999
3,2	41	171	380	603	781	895	955	983	994	998
3,4	33	147	340	558	744	871	942	977	992	997
3,6	27	126	303	515	706	844	927	969	988	996
3,8	22	107	269	473	668	816	909	960	984	994
4	18	92	238	433	629	785	889	949	979	992
4,2	15	78	210	395	590	753	867	936	972	989
4,4	12	66	185	359	551	720	844	921	964	985
4,6	10	56	163	326	513	686	818	905	955	980
4,8	8	48	143	294	476	651	791	887	944	975
5	7	40	125	265	440	616	762	867	932	968
5,2	6	34	109	238	406	581	732	845	918	960
5,4	5	29	95	213	373	546	702	822	903	951
5,6	4	24	82	191	342	512	670	795	886	941
5,8	3	21	72	170	313	478	638	771	867	929
6	2	17	62	151	285	446	606	744	847	916

11. Personnel management decisions



MANAGING MANPOWER

- **PRERETIREMENT ALLOWED**
  If box checked, your decision is to accept early retirement for people above the legal limit of 55. Early retirement occurs only in case of personnel shrinkage.

- **VOLOUNTARY DEPARTURE BONUS**
  That is the number of monthly wages given to people deciding to resign in case of personnel compression.

- **NATURAL DEPARTURES ARE COMPENSATED**
  to compensate or not the retirements and resignations

WORK TIME

- **HOURS/WEEK**
  Number of working hours per week currently applied in the company.

- **YEARLY VACATION (weeks)**
  Number of yearly vacation weeks in your company.

SOCIAL POLICY

- **SOCIAL EXPENSES/COMPENSATION**
  Calculated as a percentage of total salaries, this amount is used for social activities as entertainment, sport, cafeteria, improvement of labour conditions.

COMPENSATION POLICY

- **GLOBAL SALARY RAISE**

General increase of the hourly basic salary, in %. This increase is applied in this quarter, uniformly for all personnel. This increase is equally without reference to age.

- **BUDGET FOR MERIT**

% of salary increase given to a selected part of personnel as a merit recognition.

- **RAISE ON MERIT**

% of people receiving the merit increase.

- **PROFIT SHARING**

% of net profit distributed to personnel as Profit Sharing. This is calculated on basis of last quarter net income after tax.

- **SPECIAL BONUS**

In US$ that is the amount given individually to all personnel in this quarter only. This bonus is taken into account to calculate the purchasing power evolution. This bonus can be decided again in the next quarter.

WORKLOAD EVALUATION

- **MANPOWER USAGE RATE**

in % is the relationship between actual hours and NORMAL hours regardless of possible overtime

- **OVERTIME**

in additional hours added to normal hours. It is limited (default to 20% but this may change ...)
Overtime are subject to extra pay (default 50%)

- **USAGE RATE / LIMIT**

in % is the ratio of total hours used and hours available taking into account overtime possible.
Obviously limited to 100%!
If the limit is reached, you will either

- reduce the quantities produced
- hire staff

12. Errors in decisions

Some decisions are not acceptable

	Domain	Decision	N°	Error (move mouse over to get details)	Current	Limit
	Marketing	Sales price	3	VALUE(S) OUTSIDE LIMITS	50.00	30.00
	Quality	QC Staff	17	HEADCOUNT OF QC DEPARTMENT IS INSUFFICIENT TO PERFORM THESE TASKS	21	22

If an error is detected in the recording or validation of decisions, a window opens that lists or error (s) found (s). For more details see the explanation of the error messages

When an error is still detected, an ! on a red background appears on the button corresponding to the faulty decision.

You can close the window "error" and end up with the button "Check decisions".

To clear the error, correct and verify the new decision. Some errors require correction of several decisions whose combination causes the error.

Error messages, identified by their number, are explained at the end of this guide and in online help

13. Sending the decisions to game's control

Before the end of the quarter RESPECTING THE TIME LIMIT, you will need to communicate your decisions to the game control.

If a ! is displayed in the button bar, you must correct the error(s) before sending the decisions.

To do this:

Check again your decisions and on error, correct them

If you wait for approval of a banker, the SEC or the ISO auditor, call your animator to get his signature

Communicate your decisions with the button "Send decisions"

If you have "remorse" and before any treatment of the quarter have been achieved, use the "Cancel decisions", make your changes, recheck your decisions and send them again.

This sending of decisions indicates to the animator that you are ready.
When all the teams in the universe are ready, he will launch the quarterly processing.

Meanwhile, your data will be frozen and then you will switch to the next quarter.

VII. USING THE PROGRAM

A. General information

1. Using the *i* - Business Game

The ***i*-Business Game** is played in communication with an Internet server.

This server can be a local server on PC, a server in your "Intranet" or a hosted server maintained by the creators of the simulation.

In this case use the URL play.i-bgame.com

This server will provide access to the "database" operated by the software.
It can enable sharing between several schools, and several sessions in a session, several "universes" and several teams.

The username and password received direct you automatically to your "company"

You access the site of the game with a "browser" Internet as "Internet Explorer", "Google Chrome", "Firefox", "Opera" or "Safari".

IN ALL CASES, YOU INSTALLED THE SUPPLEMENT "Flash Player" developed by Adobe. Make sure you have a recent version.

The game can be used on PC, Mac and Android tablets. It will not work on Ipad that cannot have "Flash Player"

When connected, you will see the workspace of the game

Some choices will open a new "tab" without closing the main window of the game

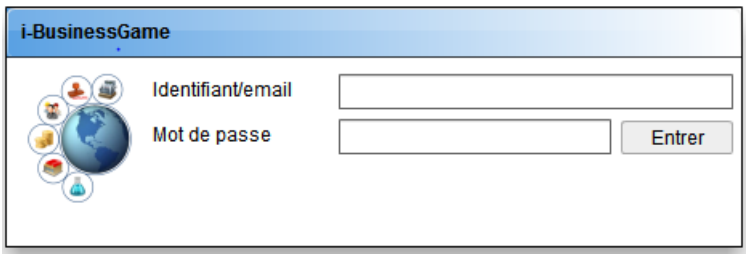
You can perform a shared access with multiple connections in parallel, in windows on the same workstation or in different tabs or on multiple workstations.

BUT ONLY THE "MASTER" WORKSTATION ASSIGNED TO YOUR TEAM WILL BE AUTHORIZED TO UPDATE AND RECORD YOUR DATA

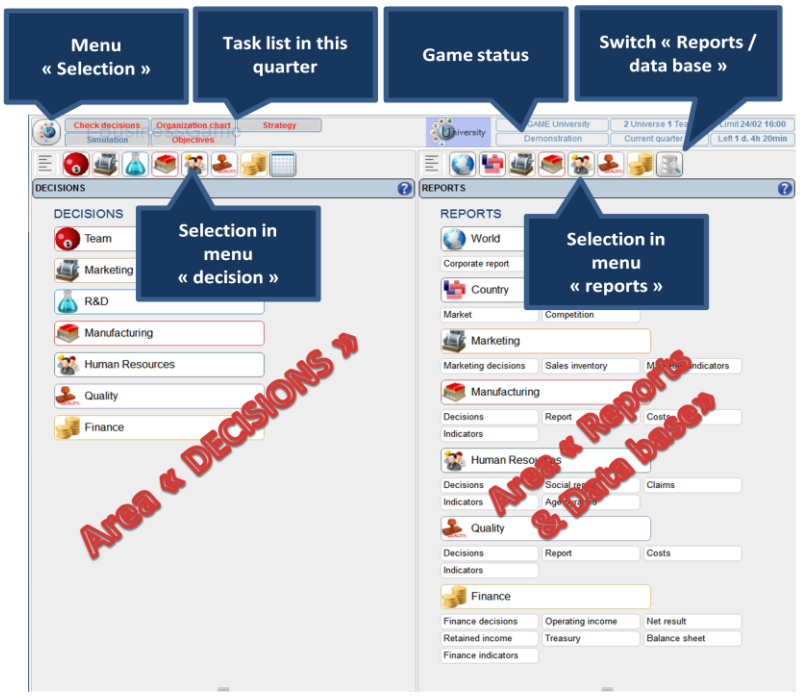
This may be useful in the preparation phase of the game which will take place probably outside the school. In the game session you will share this analysis but the final decision shall be in a position assign to the "master" of the team.

2. The simulation's workspace

The ***i*-Business Game** is played in communication with an Internet server using an Internet browser as Internet Explorer, Google Chrome, Firefox, Opera or Safari with "Adobe Flash Player"



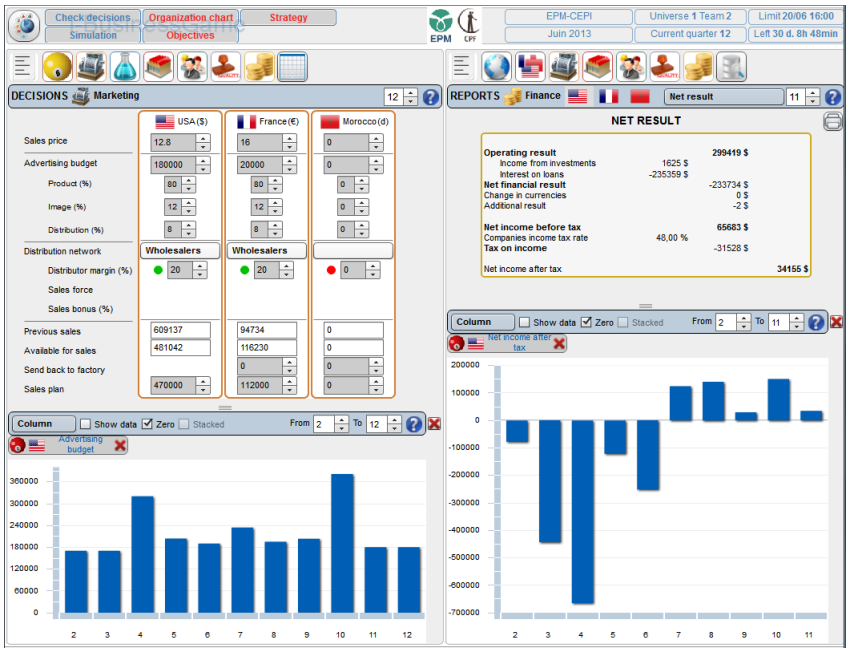
Each user has received an ID and a password. It connects to the game by the connection menu and the server displays the workspace of the game



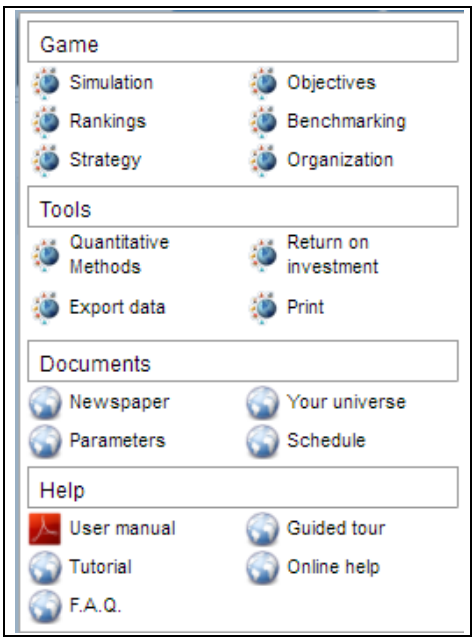
At the top you see the context information and below, the menu where you see two working areas:

- Left: The area "**Decisions**" for recording and posting decisions
- Right: The section "**Reports and Database**"

In the lower part of each area you can display a chart by selecting it in the report or database.



INFORMATIONS ET MENU



- …

The **Selection menu** is open clicking the button with the game's logo.It gives access to various functions and/or information in the browser window, in the game window or a separated tab or in a pop-up window. The list of functions will vary with the active game's phase and the current quarter.

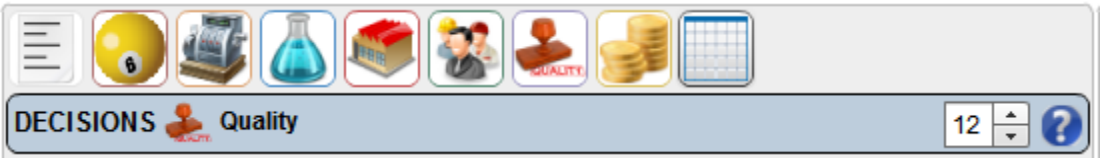
On top of window, you see a list of **tasks planned** to be performed during this quarter. Tasks could be:

- Selection of objectives
- Strategy definition
- Report to shareholders
- Checking decisions
- Simulation
- Sending decisions
- Defining organization chart

The "**Game's status**" indicates:

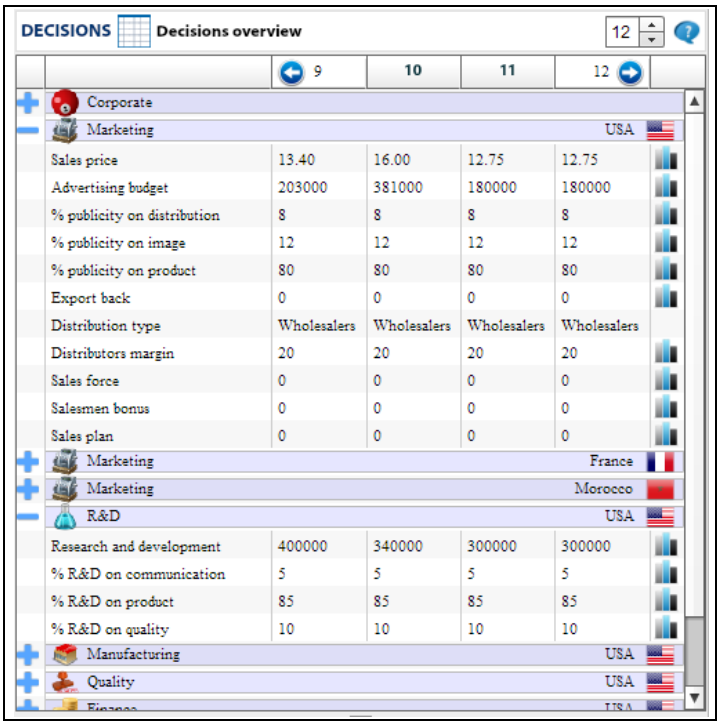
- the current mode
  - PREPARATION before the start of the game session. Read only mode!
  - REAL MODE : quarter in progress, waiting decisions
  - DECISIONS LOCKED: the game control processes your decisions. New quarter data entry is disabled but you can access to reports
- your universe and your team and its name
- the current quarter
- the date & time limit for this quarter and a countdown

DECISIONS AREA



Above the "Decisions" area you see buttons used for decision making. When decisions are to a country, you will select the country flag in the dropdown list.

You can also select the display of decisions in a table.



You can open or close the list of decisions in a domain with the (+) or (-) button.

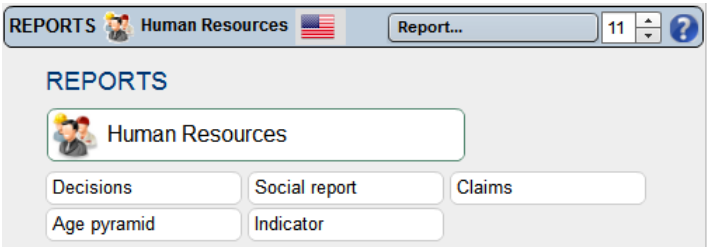
You can browse the quarters for quarter 2 up to the current quarter.

Clicking on the "Graph" icon will display the variation of this decision.

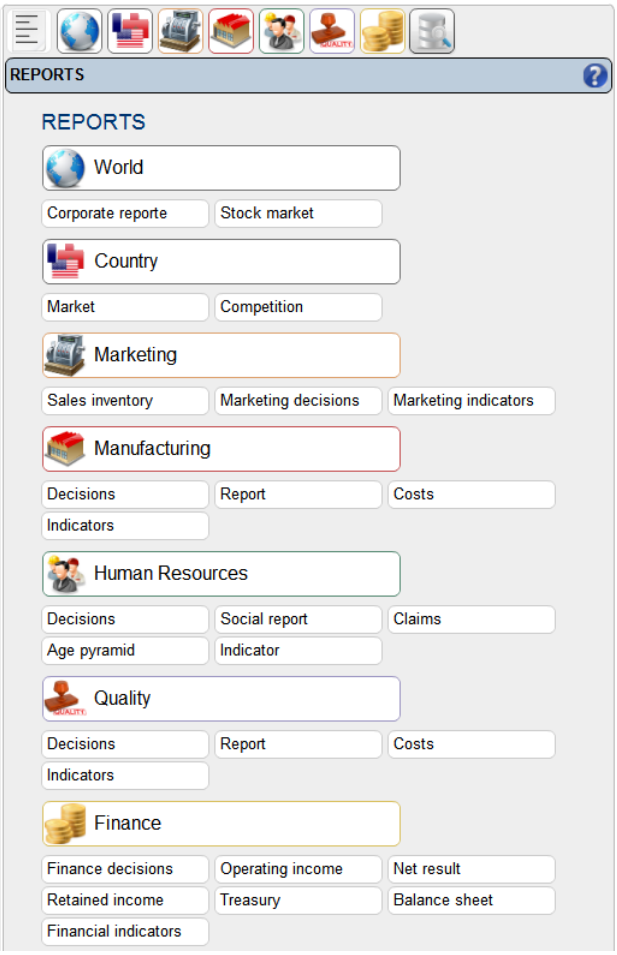
REPORTS AREA

You choose the report with the buttons or in drop down list.
The proposed **list of reports** is related to a location and a domain.
The country icon appears if the report is available for several countries.
The **Print reports** button open the report selection menu
The button "**Database**" changes the display mode of this area.

The first time you click on a domain's button, you get the list of available reports, i.e :

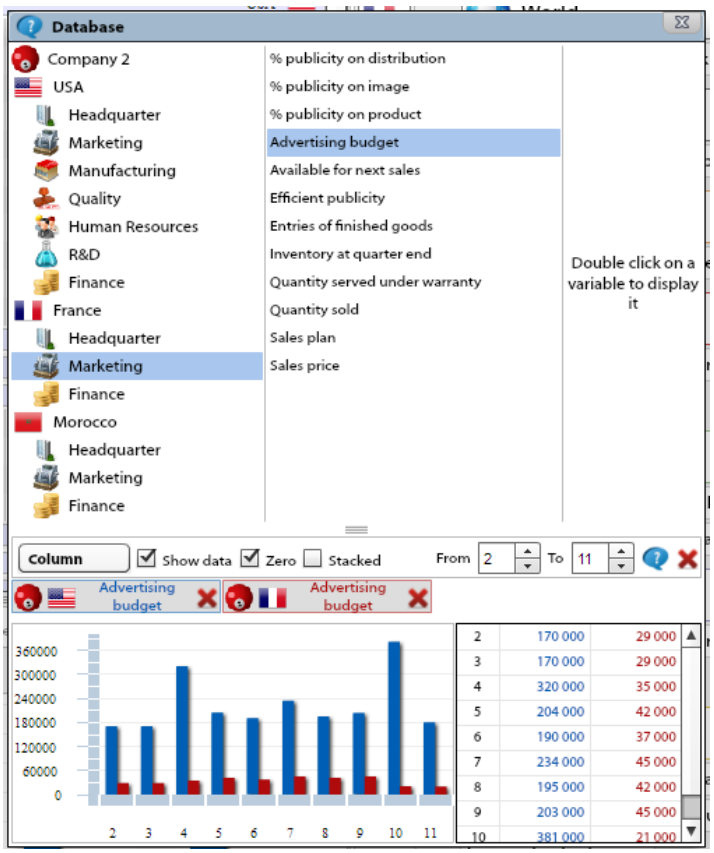


The button display the list of all available reports. Then click on the selected report button to open it.



"DATA BASE AREA"

Use this button to open the "data Base Window"



The database contains multiple variables classified according to their location (world, group, country) and their domain (production, marketing, finance etc ...)
A click on domain open the list of available items.
A double click on the item will open the graph of evolution.

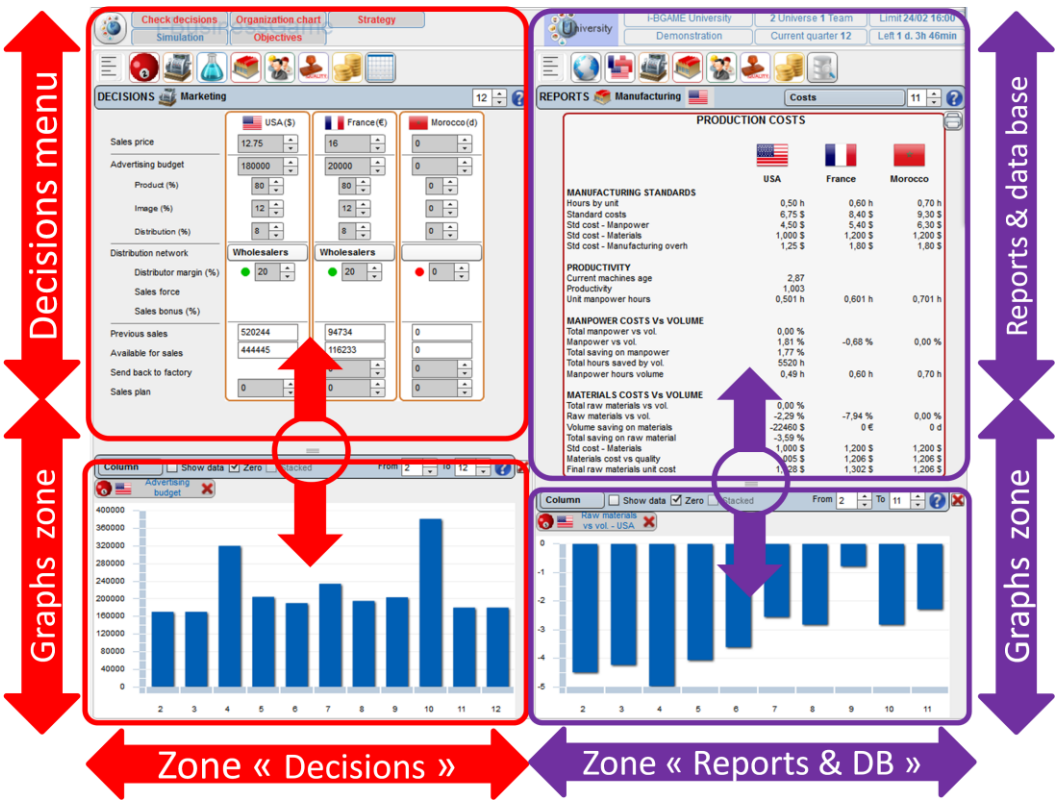
You can cumulate up to 6 items on the graph. As for all graphs, you can:

- Select the type of graph
- Display a table with values
- Cumulate the items

The red cross allows you to remove an item.

Items in the data base are available for quantitative methods and extraction to Excel.

3. Formatting the workspace



On the left: the **DECISIONS** area
On the right: of the **REPORTS AND DATABASE** area

In the top zones:

- the decisions entry menus
- The display of reports
- The selection of variables in the database

In the lower areas, you see the framework where graphics are displayed as well as tables of values.

With a "Drag & drop " on the bars that separate the three areas of top and bottom, you can adjust the size of these areas.

The graphics are displayed by selecting the content areas from the top.
When you open a chart, it is linked to the menu from which it was posted. If you return to this menu, the graphic will be displayed again

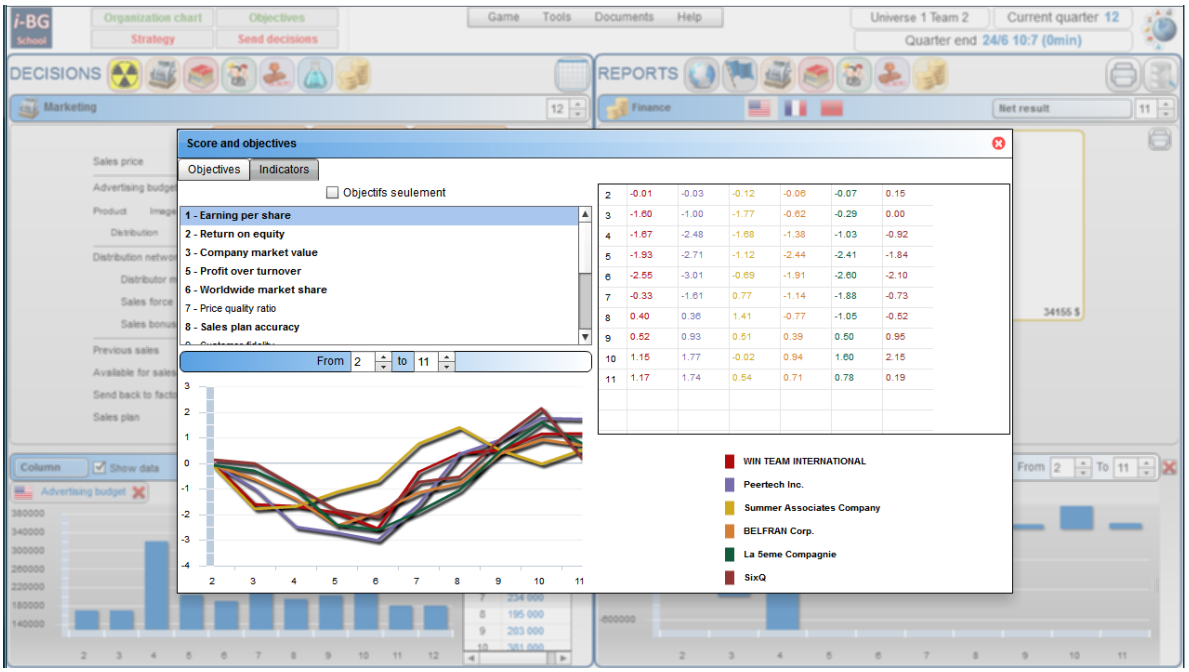
4. « pop-up » windows

Some functions in the software will open a 'pop up window'. The workspace is therefore disabled up to the closing of this window.

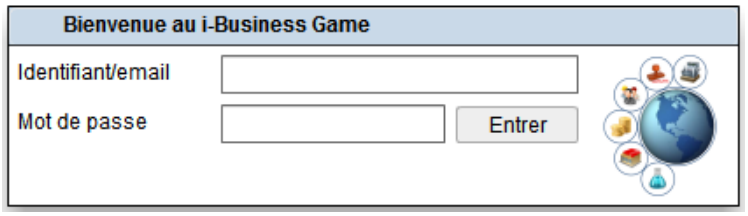
This will be the case, for example:

- displaying the score
- display and selection of priorities of objectives
- display evolution in objectives and indicators
- quantitative methods
- calculating return on investment
- company organization chart
- communication with the animator
- display and the creation of credit lines ...

Close this popup window to reactivate the workspace



5. Connection to i-Business Game and language selection



Any activity on the i-Business Game goes through this connection menu. The menu's language is selected according to the default language used in your browser.

If you cannot make it work, check your Internet connection and the availability of "Flash Player"

Each participant received a **User ID** (usually email address) and **password**.

In his profile, was recorded that his language used by default.

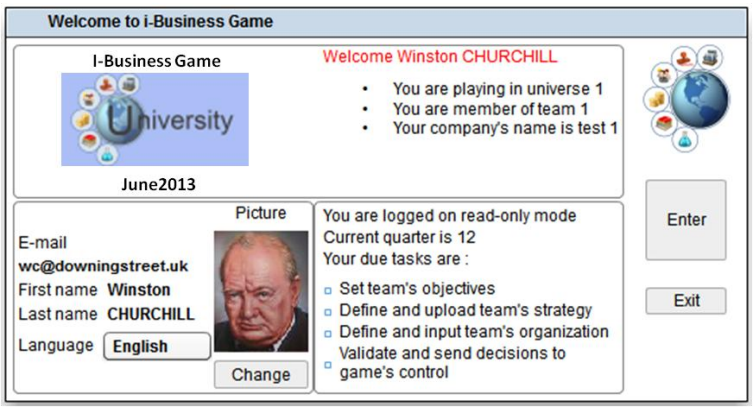
This **personnel account** will provide access in "**read only mode**", to all functions of consultation and analysis, but it will not give access to functions as updating decisions data and getting simulation results.

Each team will receive a "**Team master account**" with a username and a password known by its members. Except in the preparation phase, this account only will be able update decisions and simulation results. One single session could be open with the same account.

The program will memorize the last Userid used yo access to the Game. If you stay in the same browser session, the next connection will give automatically access to the same userid and the same language.

To use another account or another language, close and reopen the browser session and access again to play.i-bgame.com

Type your Userid & your password & click on "Enter». You will this the welcome menu.

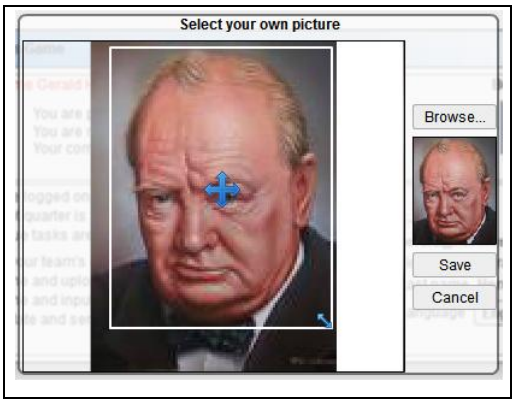


You will receive information on the status of the session and on your profile as well as the list of tasks to be performed in this "quarter."

In your profile, was recorded that the language used by default. You can change it.

Select the "Language" button & select the flag corresponding to the language. Your choice will be saved for the next connection. To return to the other language, log off and redo your choice by logging again.

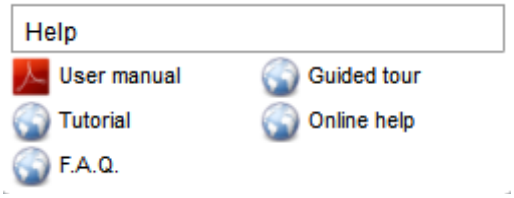
Use "Enter" button to start your activity.



If you connect your "personal" account and your photo is not displayed, please upload your picture by clicking "Change"

- Click on "Browse"
- Select a picture available on your computer in format (.jpg, .png,.jpeg, .gif)
- Select a picture in "identity card" style with a average definition (file size> 50K et < 300K)
- Move the frame and adjust the picture with the arrow in bottom right corner.
- Save your choice.

6. Using the "online Help"



Aid can be called either:

- In the "Help / Online Help" menu
- By a button "?" on some menus
- In the "Help / FAQ" for answers to frequently asked questions

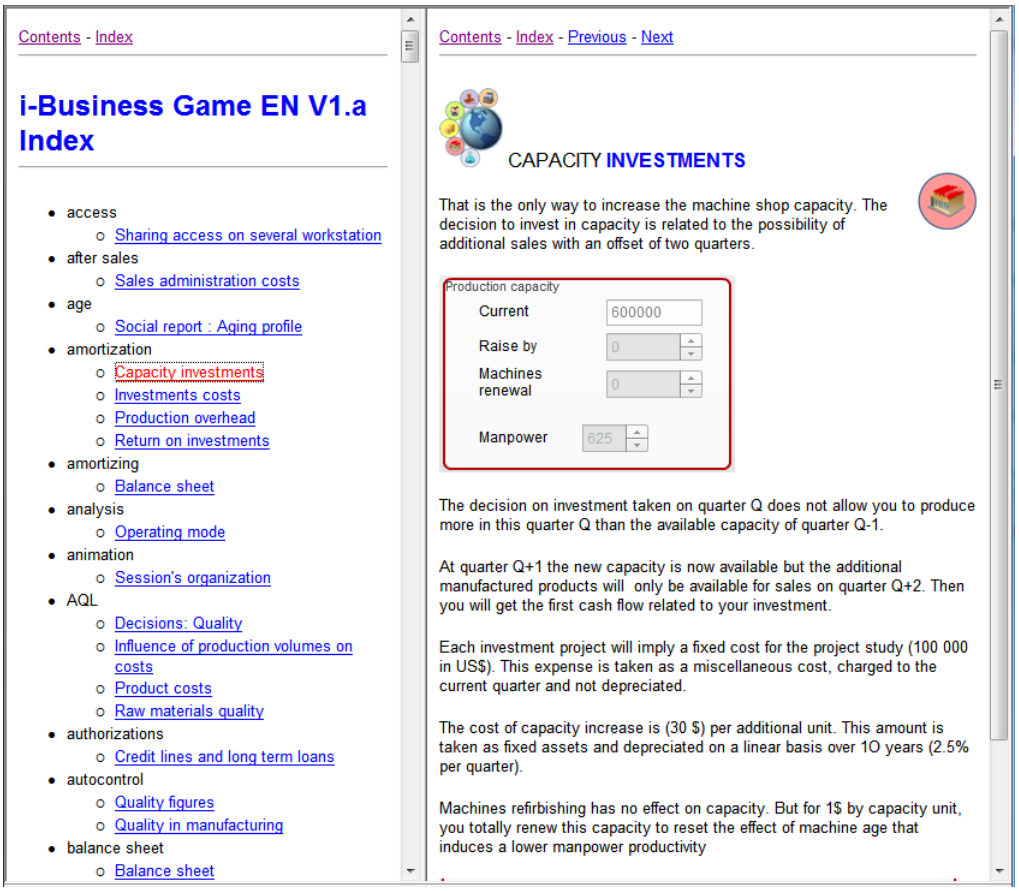
In the Help window, in the tree pane on the left, you work in two modes:

- The mode "Content" where a page choose among the topics presented
- The mode "Index" where you find the keywords "giving access to pages

In the right window, you will see the selected page. Underlined texts are links to navigate from one topic to another. Links "Previous" and "Next" you can go back or to move to next page.

MODE « Content »

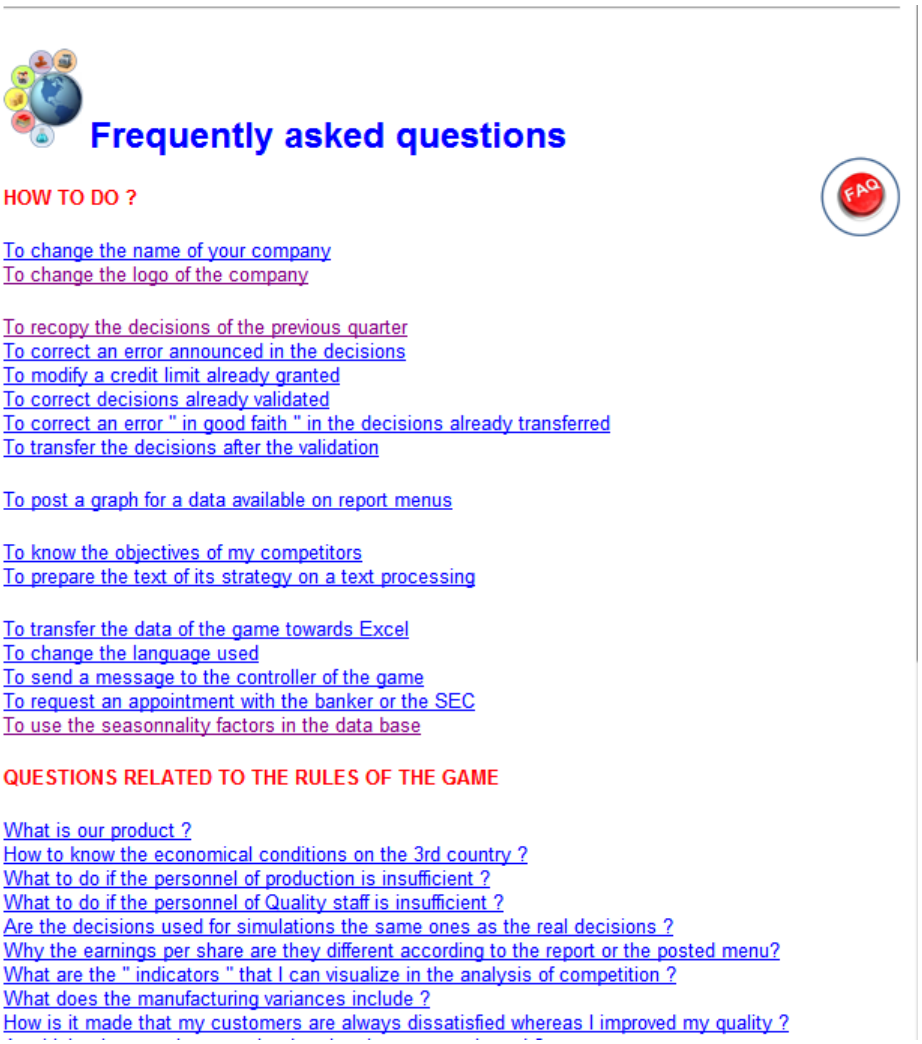
MODE « Index »


Contents - Index
i-Business Game EN V1.a
Index
access
Sharing access on several workstation
after sales
Sales administration costs
age
Social report : Aging profile
amortization
Capacity investments
Investments costs
Production overhead
Return on investments
amortizing
Balance sheet
analysis
Operating mode
animation
Session's organization
AQL
Decisions: Quality
Influence of production volumes on costs
Product costs
Raw materials quality
authorizations
Credit lines and long term loans
autocontrol
Quality figures
Quality in manufacturing
balance sheet
Balance sheet
Contents - Index - Previous - Next
CAPACITY INVESTMENTS
That is the only way to increase the machine shop capacity. The decision to invest in capacity is related to the possibility of additional sales with an offset of two quarters.
Production capacity
Current
600000
Raise by
0
Machines renewal
0
Manpower
625
The decision on investment taken on quarter Q does not allow you to produce more in this quarter Q than the available capacity of quarter Q-1.
At quarter Q+1 the new capacity is now available but the additional manufactured products will only be available for sales on quarter Q+2. Then you will get the first cash flow related to your investment.
Each investment project will imply a fixed cost for the project study (100 000 in US$). This expense is taken as a miscellaneous cost, charged to the current quarter and not depreciated.
The cost of capacity increase is (30 $) per additional unit. This amount is taken as fixed assets and depreciated on a linear basis over 1O years (2.5% per quarter).
Machines refirbishing has no effect on capacity. But for 1$ by capacity unit, you totally renew this capacity to reset the effect of machine age that induces a lower manpower productivity

Frequently Asked Questions: FAQ

You will find three groups of questions and answers

- How to?
- Questions relating to rules of the game
- Problem Solving



Frequently asked questions

HOW TO DO ?

To change the name of your company
To change the logo of the company

To recopy the decisions of the previous quarter
To correct an error announced in the decisions
To modify a credit limit already granted
To correct decisions already validated
To correct an error " in good faith " in the decisions already transferred
To transfer the decisions after the validation

To post a graph for a data available on report menus

To know the objectives of my competitors
To prepare the text of its strategy on a text processing

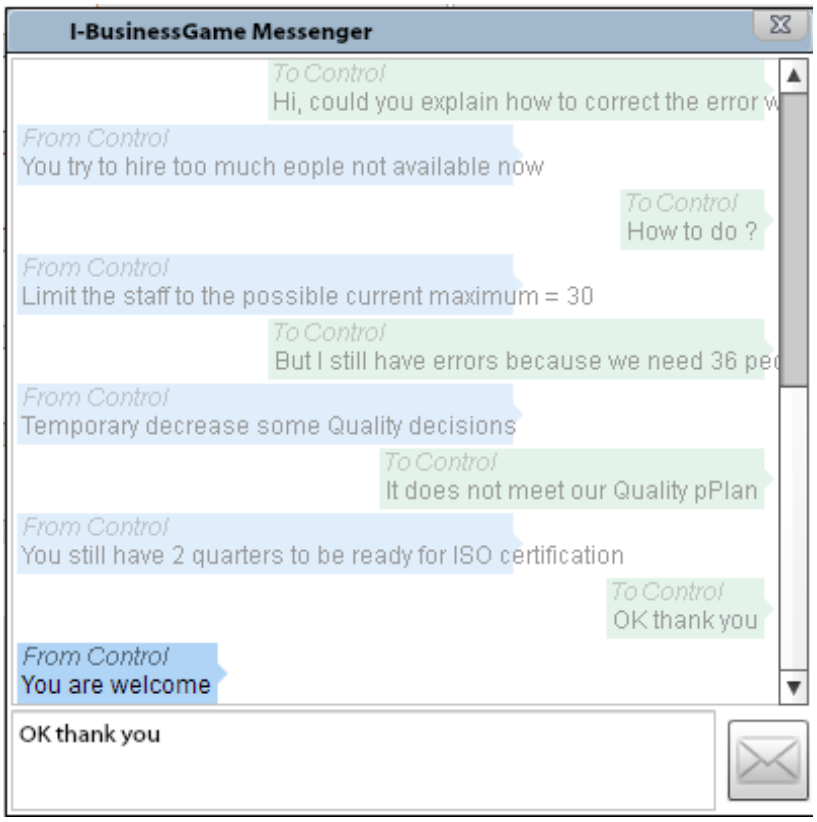
To transfer the data of the game towards Excel
To change the language used
To send a message to the controller of the game
To request an appointment with the banker or the SEC
To use the seasonnality factors in the data base

QUESTIONS RELATED TO THE RULES OF THE GAME

What is our product ?
How to know the economical conditions on the 3rd country ?
What to do if the personnel of production is insufficient ?
What to do if the personnel of Quality staff is insufficient ?
Are the decisions used for simulations the same ones as the real decisions ?
Why the earnings per share are they different according to the report or the posted menu?
What are the " indicators " that I can visualize in the analysis of competition ?
What does the manufacturing variances include ?
How is it made that my customers are always dissatisfied whereas I improved my quality ?

7. I-Business Game Messenger

Use the button "Envelope" to open the window "i-Business Game Messenger" which allows you to exchange messages with control of the game (other choices of recipients could be offered).
Beginning of the session, your animator will explain how to communicate with him, with your banker etc ...
This communication may vary according to the "logistics" of your session.

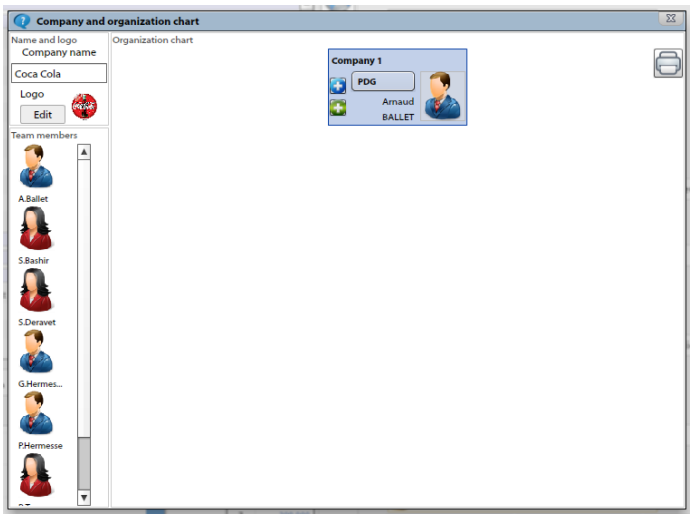


In the « Messenger » window :

- In the lower type the text of your message that you send to the game's control & send it with the button
- Messages sent are displayed on the left side of the window

- When you will receive the answer or another message from the control:
  - If the « Messenger » window is open, the message is immediately displayed
  - If the « Messenger » window is closed, you are warned by the red frame displayed on the "Messenger" button. Open it to see the message.
- Received messages are displayed on the left side of the menu.

8. Identification & organization chart



a) Company's name & logo

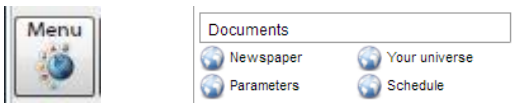
In 12 quarter you can view and edit your "**Company name**" that is the name of **your group** and the organization of your team.

After treatment of 12 quarter data will be frozen (but you can ask the control of the game to change them).

Enter the new name and logo . They will be save when you close this window.

By clicking on "Edit" button, you can update the logo of your business by choosing a new one from the catalogue & clicking on the icon selected.

b) Team members

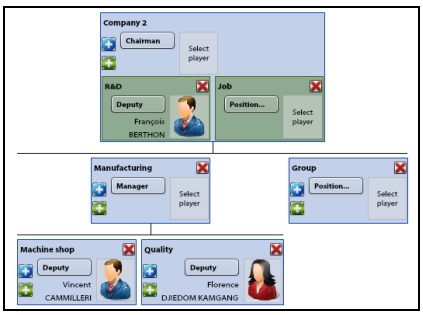


The list of your teammates and of members of all teams is recorded by the game's control, with or without their pictures

You can display them selecting "Your universe" in the main menu.

If a picture is missing, ask to your teammate to record his picture when he connects himself to the game.

c) Team organization recorded in organization chart



The distribution of responsibilities within your team is left to your choice.

It may depend on the number of members of your team, strategy, the expertise of each teammate…

It is useful to define a distribution of responsibilities in order to:

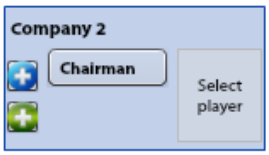
- share the workload analysis and preparation of your decisions
- clearly define the contacts of your banker
- cover the main functions such as marketing, finance, production, quality and human resources.

You can display and print your organization chart and also the charts of your competitors. Obviously the game control will have also an access…

Modifying the organization chart

From the quarter of 12, you will translate these choices in your **organization chart**.

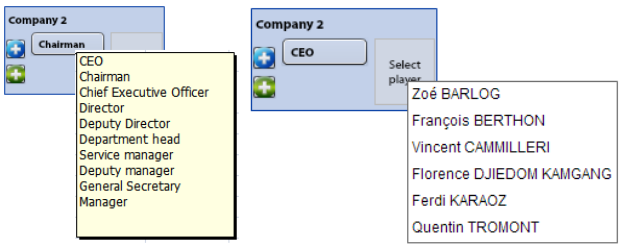
Upon creation of the structure, one box only exists. It cannot be deleted. It corresponds to the general management of the company.



In each box, you will see three types of buttons:

- With the + button on blue background, you add a box UNDER the current box level
- With the + button on green background, you add a box inside the current box to define a "sub-department" corresponding to a "staff" function
- With the button with a red cross X, you delete the current box

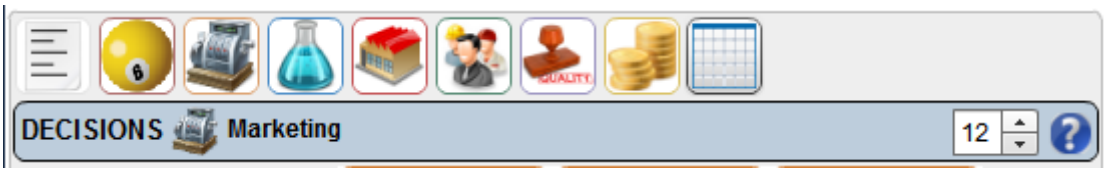
As a symbol, you can group several responsibilities in a single box (i.e. : Finance & Human Resources).
With the "Green" boxes, you can share the responsibility between several teammates.
A team member can appear in several boxes.



In each box, you can :

- change the **title of the box** by placing the mouse on the old title. (not for the top box that includes the company name)
    - Typically, a box title would be Marketing, Production, Finance, Human resources …
- You can also choose the **title of the position** by placing the mouse on the current title and selecting the title from the dropdown menu.
    - Chairman, CEO, Director, Deputy manager, Manager …
    - If the list of team members is registered, you click on the picture to designate the person **responsible** for this function. If his photo is available, it will appear in the box.

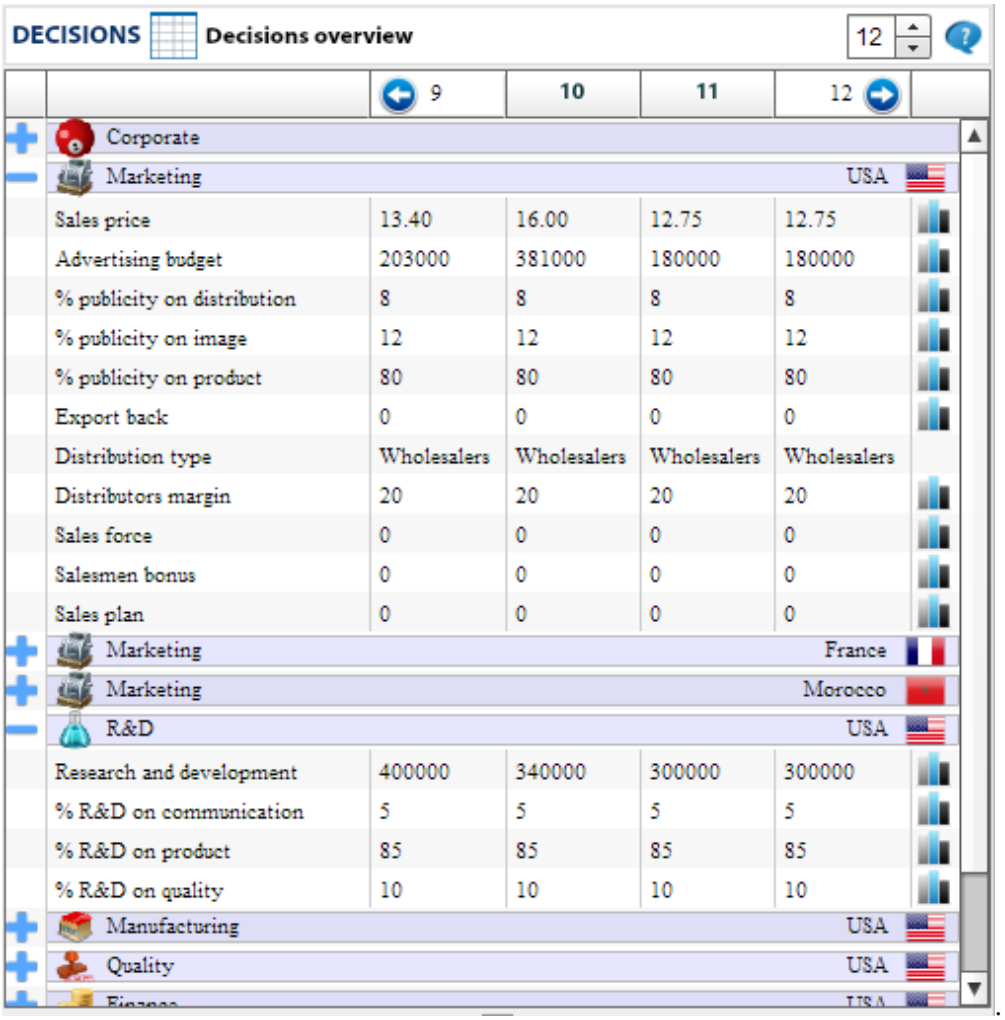
9. Decisions display in table



Clicking on the "Table" button, you can view a table that lets you see the decisions of several quarters

Click on the + or - to expand or consolidate lines.

The arrows to the left or right will sweep the quarters of the past and the current quarter.



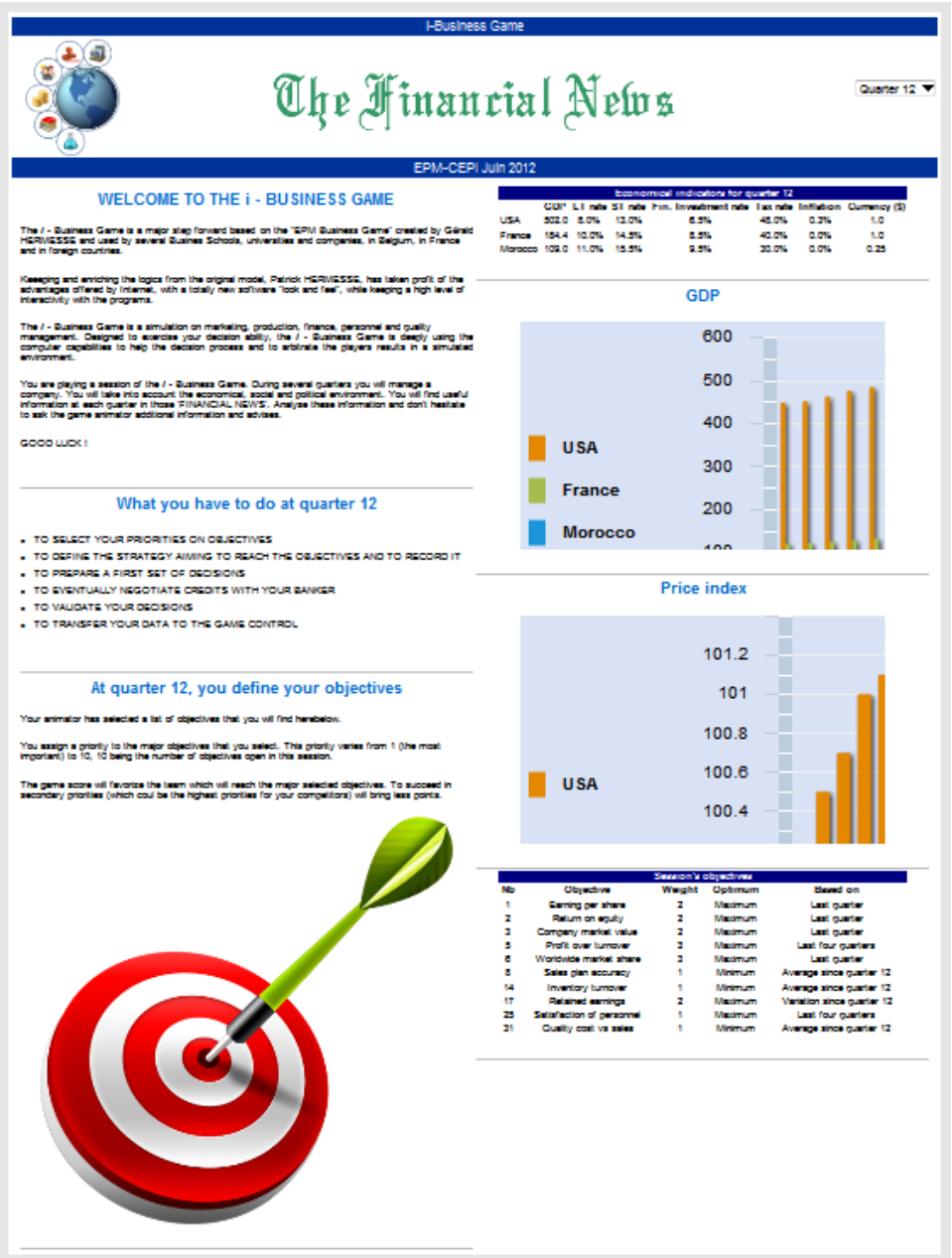
DECISIONS Decisions overview 12

	9	10	11	12
Corporate				
Marketing				USA
Sales price	13.40	16.00	12.75	12.75
Advertising budget	203000	381000	180000	180000
% publicity on distribution	8	8	8	8
% publicity on image	12	12	12	12
% publicity on product	80	80	80	80
Export back	0	0	0	0
Distribution type	Wholesalers	Wholesalers	Wholesalers	Wholesalers
Distributors margin	20	20	20	20
Sales force	0	0	0	0
Salesmen bonus	0	0	0	0
Sales plan	0	0	0	0
Marketing				France
Marketing				Morocco
R&D				USA
Research and development	400000	340000	300000	300000
% R&D on communication	5	5	5	5
% R&D on product	85	85	85	85
% R&D on quality	10	10	10	10
Manufacturing				USA
Quality				USA

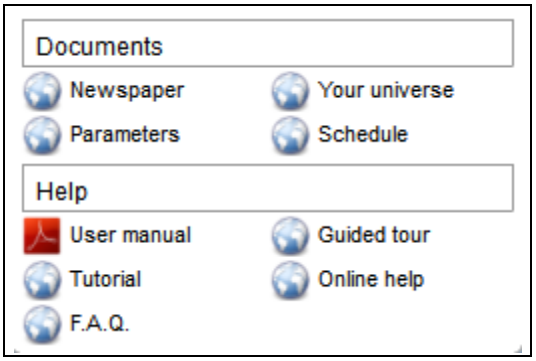
B. Financial News

Displays or prints the Financial News for the quarters where it is available.

The Financial News will give you useful elements of economic conditions or events that will impact the simulation.
To select a quarterly News, click the number corresponding quarter in the dropdown list at the top right of the page



C. Business Game documents



Game programs automatically generate Web pages that give access to different information.

This information will be enriched from quarter to quarter.

Available documents will be read with a browser such as Internet Explorer or Firefox ou Adobe Reader

Depending on network configuration and your choice of animator, the Web pages content may vary.

I-Business Game

PARAMETERS SELECTED FOR YOUR SESSION SCENARIO

Universe 1

The following values summarize the major constants listed in chapter III of the users' guide. The guide shows default values of a standard scenario which could be different in the scenario of the session you will play. The values of this parameter sheet correspond to end of quarter 11 and will therefore be applied in quarter 12. Other information as financial rates, salary costs, inflation rate or GNP are available in several reports, accessed on the preparation diskettes or in printed reports.

Your game session

Session title	**Fast session**
You belong to	**Universe 1**
Number of teams competing in your Universe	**6**
Finance simulation is active	**Yes**
Quality simulation is active	**Yes**
ISO 9000 simulation is active	**Yes**
Human Resources simulation is active	**Yes**

The objectives you will prioritize

You have 10 objectives to prioritize. This list cannot be modified.
List of available objectives :

- Earning per share (1)
- Return on equity (2)
- Company market value (3)
- Profit over turnover (5)
- Worldwide market share (6)
- Sales plan accuracy (8)
- Inventory turnover (14)
- Retained earnings (17)
- Satisfaction of personnel (25)
- Quality cost vs sales (31)

The markets

	USA	France	Morocco
Currency	$	€	d
Exchange rate (quarter 12)		1 € = 1,05 $	1 d = 0,25 $

Costs

	USA	France	Morocco
Materials standard costss	1,000 $	1,200 $	1,200 $
Standard cost manpower	4,50 $	5,40 $	6,30 $
Overhead charged to standard cost d	1,25 $	1,80 $	1,80 $
Total standard cost	0,00 $	0,00 $	0,00 $
Unit cost for hiring	2000 $	0 €	0 d
Unit cost for layofft	500 $	0 €	0 d
Tax rate on profits	48,00 %	40,00 %	30,00 %
Tax rate on salaries	12,00 %	0,00 %	0,00 %
Maximum legal labour week	40,00 h	0,00 h	0,00 h
Minimum legal vacations weeks	3	0	0
Extra hours limitation	20 %	20 %	20 %
Shipment unit cost	0,00 $	0,25 €	0,25 d
Unit fees for import	0,00 $	0,20 €	0,80 d
Fixed cost for each investment slice	100000,00 $	0,00 €	0,00 d
Unit cost for capacity investment	30,00 $	0,00 €	0,00 d
Unit cost for machine refurbishment	1,00 $	0,00 €	0,00 d

D. Using the data base

To access to the database queries, click this button on reports bar.

Each quarter, the program records a number of significant variables for the company or about the various markets.

All these variables may be subject to the same processing:

- Business graphics
- Quantitative methods (regression, correlation, seasonal adjustment...)
- Transfers to Excel

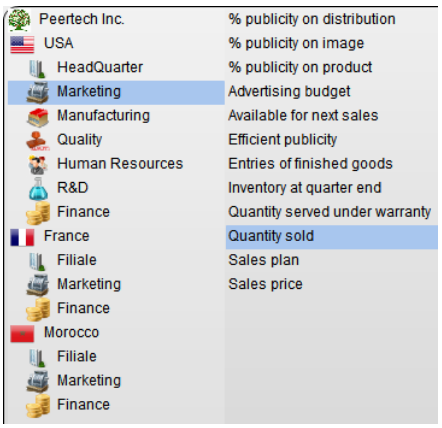
The variables of the database are attached to a **LOCATION** and a **DOMAIN**

Locations will be:

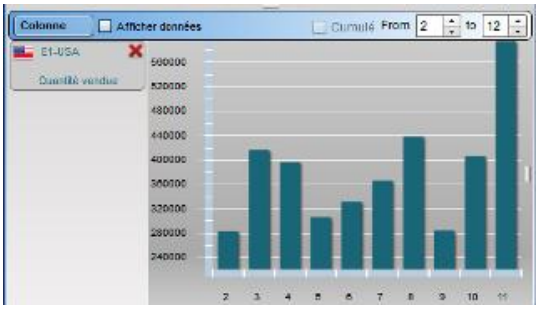
- the world
- your corporation
- a country

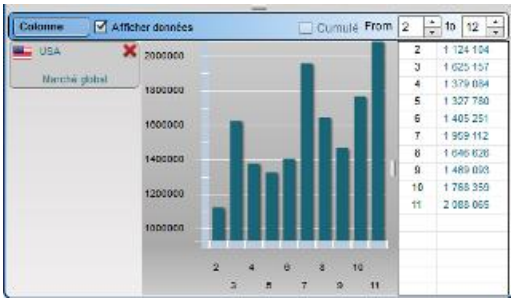
Domains will be:

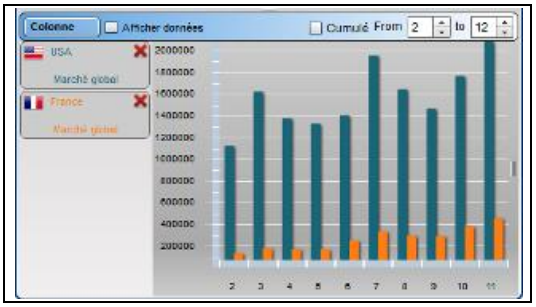
- your company in a country, marketing,
- production
- quality
- human resources
- finance



Click a domain to get a list of variables that are available..
Then double click on an item to see its evolution







Check the "Show Data" to see the table of values of the variable chosen

You can select multiple variables for display in the same graph or the same table

The graph will be significant if you combine variables whose "ranges" of value are consistent. You can close the display of a variable by clicking on the corresponding red cross.

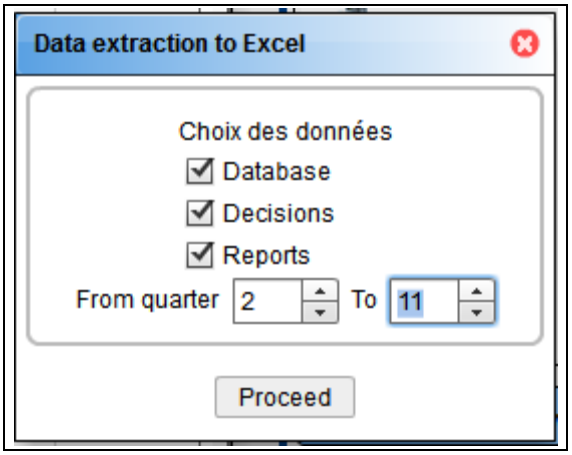
E. Transferring data to Excel

You can send a large number of reports data or data from the database extracted from the i-Business Game to "Excel" spreadsheets.

Therefore, you can create

- your own management indicators
- your own analysis tools
- your business models
- your own graphics

In "TOOLS" menu, select "Data export"

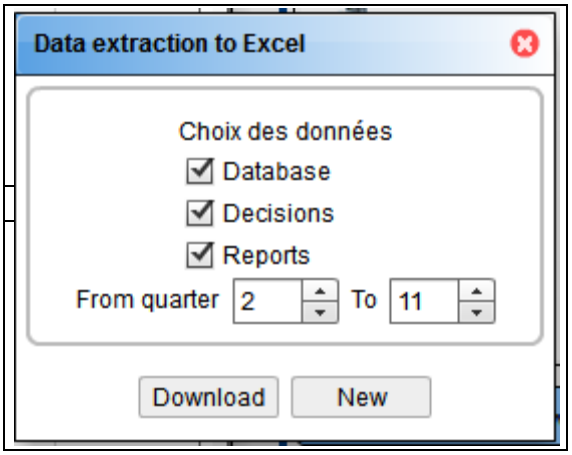


In the menu "TOOLS", select "Data Extraction"
In the "pop-up" window, choose the source or sources of data

- Database
- decisions
- reports

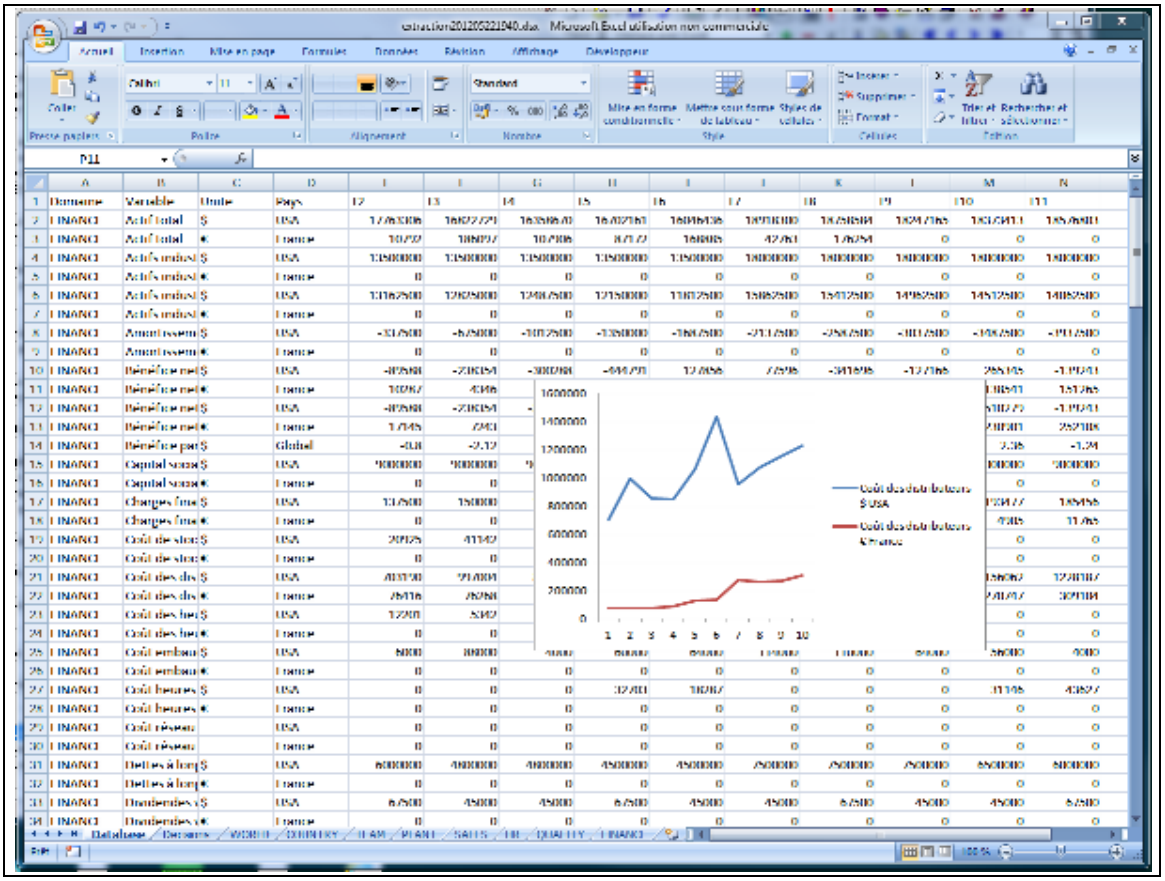
You can also select the range of quarters to be included in the table.
Confirm your settings with the "Proceed" button.

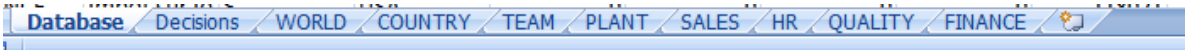
The program creates a Excel "workbook"



The "Download" button will open a window to select the name and location of the "Excel" file.

With the "New" button, you ask another extraction.





Open the Excel file that was downloaded.

You choose the sheet corresponding to the "source" data extracted.

- Database Variables in the database
- Decisions Decisions of the quarter
- World Global Reports
- Country Country Reports
- Team Report at the "Corporation" level
- Plant Production Report
- Sales: Sales and Stocks
- HR Social Quality
- Quality Quality Reports
- Finance Operating results, cash flow, balance sheet

Each variable is identified by its source, its title, its unity, its location (world, country ...).

You have a column for each quarter.

By selecting one or more variables it is easy to insert graphics.

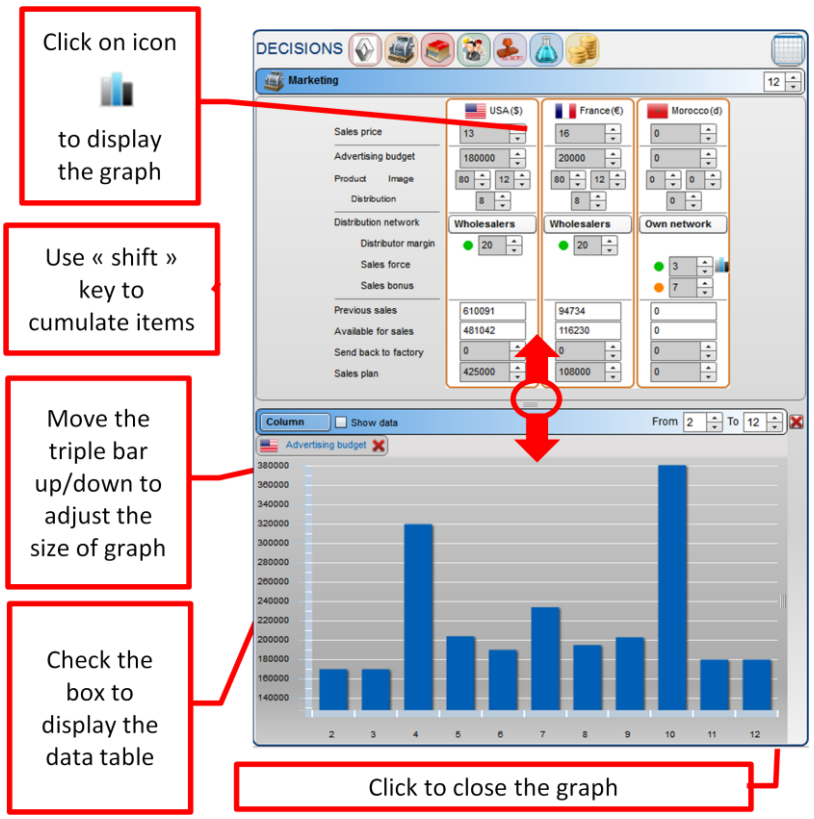
You can also enter formulas to create your indicators and your dashboard or perform your analysis.

F. Business graphics

The graphs of i-Business Game come from various sources:

- In the workspace
  - Graphs on decisions
  - Graphs from reports
  - Graphs from data base
- In “popup windows”
  - The ranking and score
  - The values of the objectives
  - The benchmarking between teams
  - Quantitative methods (forecasts, correlations)
  - The discounted cash flow (ROI)

Some specific graphs will be explained while describing the pop-up windows



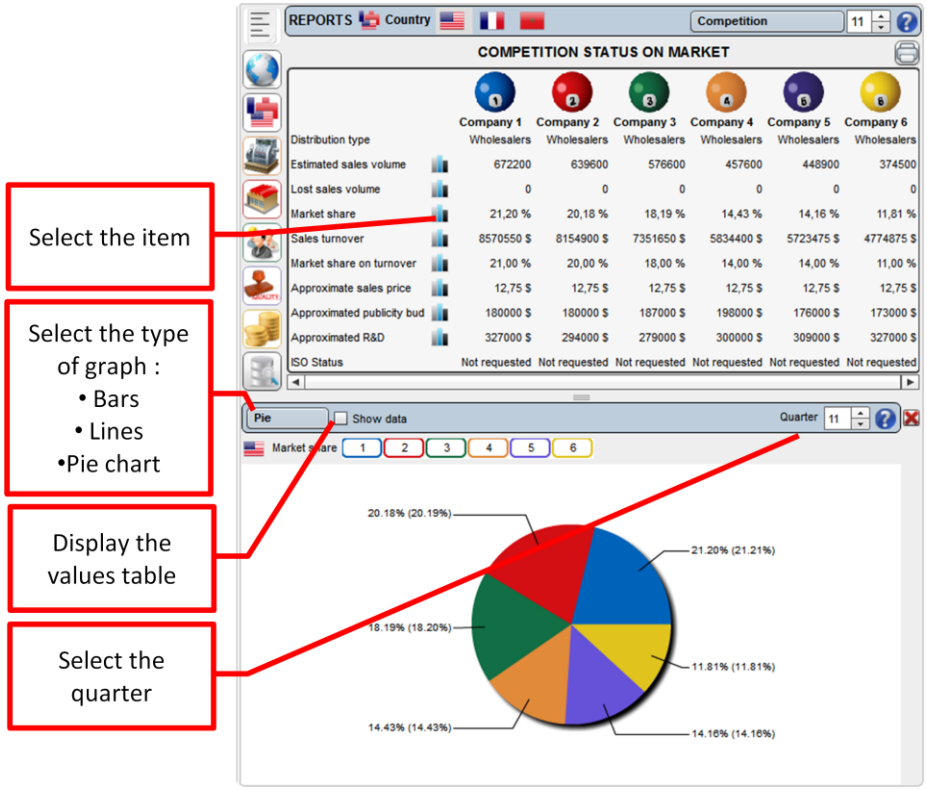
Graphs related to decisions are selected from the decisions menus

When moving the mouse on a decision value, you will see an icon on the right of the value field.
To disply the graph, you select the variable by clicking on the graph icon .
The graphic appears in the lower zone.
You can adjust the size of the menu and the graphics area by moving the triple bar that separates them.
You can also choose the chart type:

- Bar chart
- Lines
- Surface chart
- Pie chart

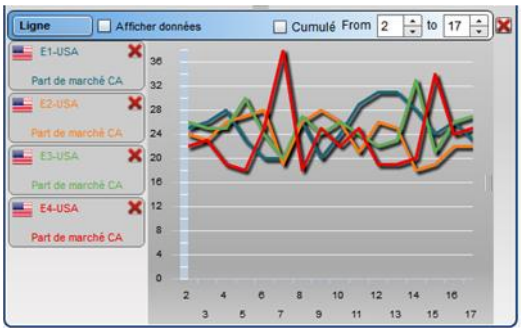
Click on the red X to close the graph. To view the table data corresponding to the graph, select the "Show data"

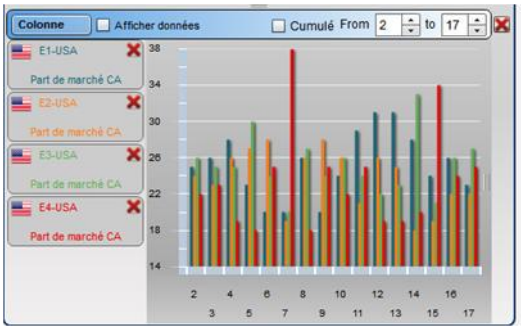
Graphs related to reports are selected from the reports



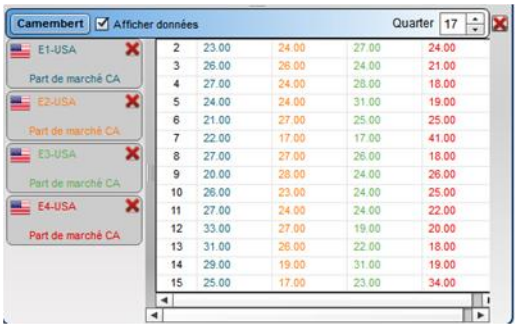
Some variables are displayed solely for your team.
You select the variable by clicking on its value.
When the report shows values of a variable for the various competitors, such as market share, you have two choices:

- by clicking the "graphic" which follows the title, you get the values of all teams, for example for a "pie" giving the market share of a quarter
- by clicking one of the values, you display the evolution of this value for the team selected



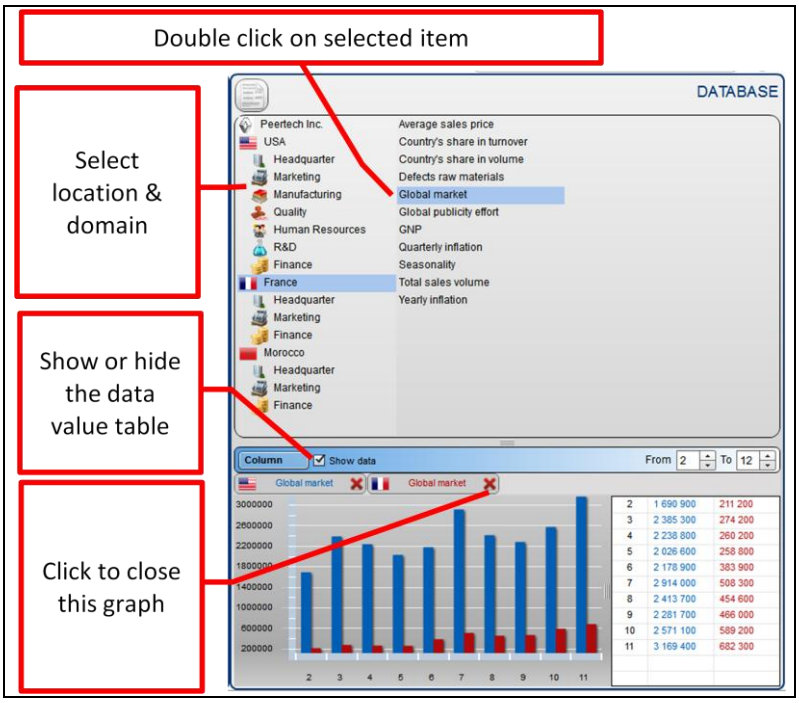


You can then choose a different graph, bar, line or pie chart (if the data are suitable).



You will also get a table giving the values of teams throughout the quarters

Graphs related to the "Data Base" are selected while pointing to variables in the simulation data base



Choose the location of data you want to see: the world, your group, or individual countries.
Then select the domain available for this choice: the elements relating to the country, marketing, production ...

You will then see a list of possible variables and you choose one of them by **double clicking** on its label.

By double-clicking successively on other lines, you can overlay multiple variables (if their magnitudes are compatible)

To remove a variable, click the red cross.

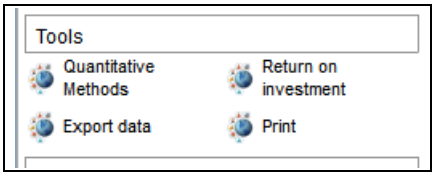
G. Quantitative methods

1. Principles

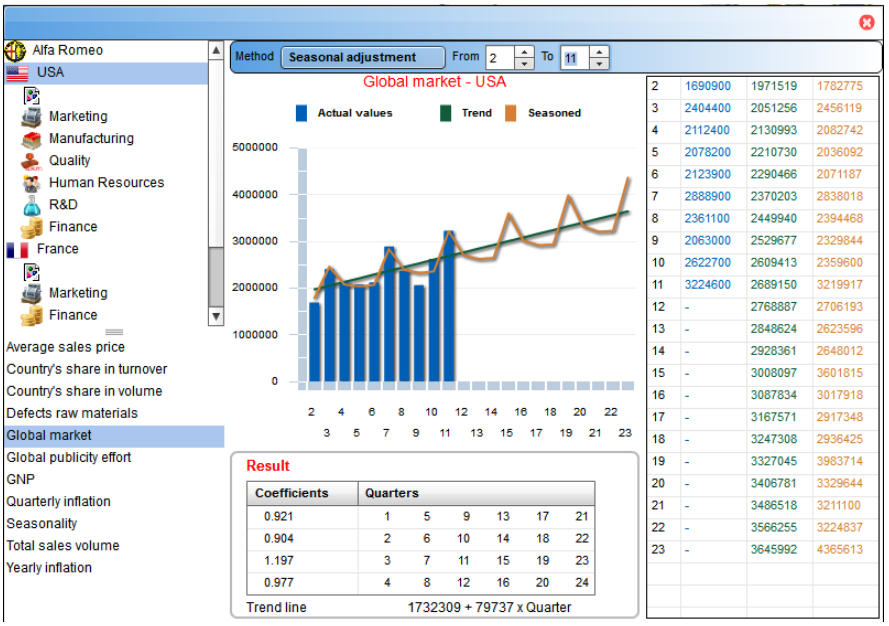
They will help you analyze past data to understand the reciprocal influences of variables on each other or predict the future.

They are applied on the variables recorded in the database.

Choose the method best suited to the analysis that you perform and interpret the results with a critical mind.



To use these methods use the menu "TOOLS / QUANTITATIVE METHODS". The popup window opens



To the left of the window, click the domain of the variable you want to analyze. The list of available variables is displayed

- Double-click the variable subject to analyse
- Choose the method
  - linear regression
  - seasonal adjustment
  - exponential smoothing
  - correlation
- Enter or modify the parameters demanded by the chosen method
- Change the quarters range of the analyzed series

The program displays a graph showing, according to the method,

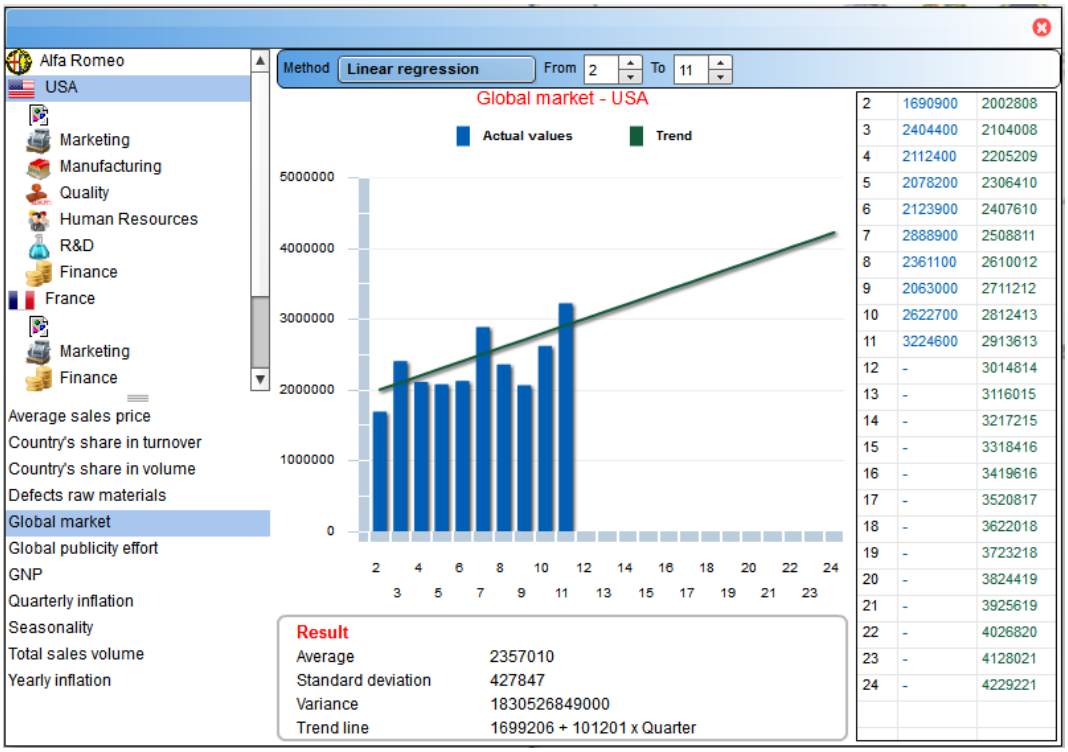
- blue bars for the data set analyzed
- the green line showing the linear regression
- the yellow line giving the expected seasonal variation
- the purple line giving the prediction smoothed
- the red line gives the prediction based on the correlation by multiple regression

You can also display the values of the data analyzed and the values calculated by the method chosen.

According to the selected method, you will see more results such as

- the equation of the linear trend line
- a table giving the coefficients of the seasonal factor for the quarters' coefficients
- correlation rates
- the values of the multiple regression ...

2. LINEAR REGRESSION



Applied to a variable, it will give you the equation of the regression line fitted by the least squares method and the forecast based on this trend.

You can limit the range of the quarters of the analyzed series.

The calculation is the prediction values of this variable for the remaining months until quarter 24.

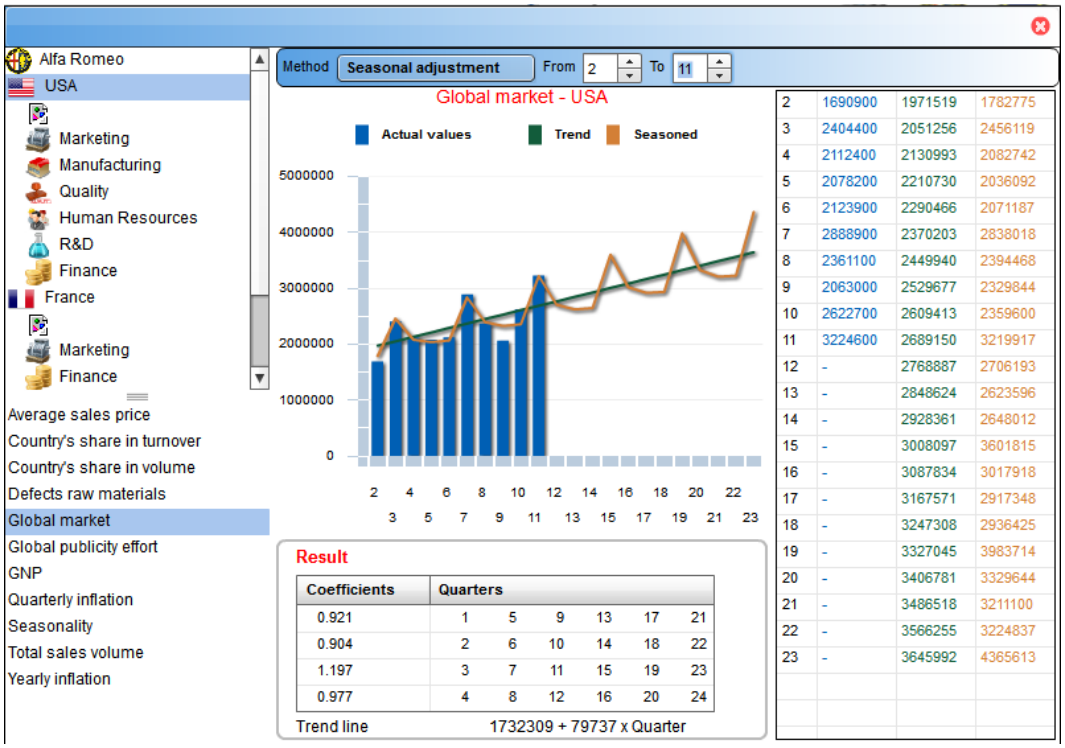
- Open the menu TOOLS / QUANTITATIVE METHODS
- Select the location and domain of the variable to be analyzed
- Double-click the variable in the list
- Select the linear regression.
- Change the quarters range subject to analysis

The bar chart represents the analyzed series. The regression line is green.

The menu displays:

- The average
- The standard deviation
- The variance
- The equation of the trend line

3. SEASONALITY & TREND



Applied to a variable whose variation profile shows a seasonality profile and a possible trend, the model calculates the trend line and seasonal factors to be applied cyclically on the values of this line in each quarter to obtain the best approximation of seasonal phenomenon.

The model is based on the following method

- calculation of moving averages with a period of 4 quarters
- averaging these values for the quarters separated by one year
- adjustment of these averages on the end of quarters and calculating the coefficients corresponding to these seasonal averages by reducing them to a single index
- seasonally adjusted time series and calculating the trend line on the seasonally adjusted series by the method of least squares.

You see the quarterly coefficient to be applied on the trend line to get a forecast. You also know the equation of the trend line and the calculated values based on this model for future quarters.

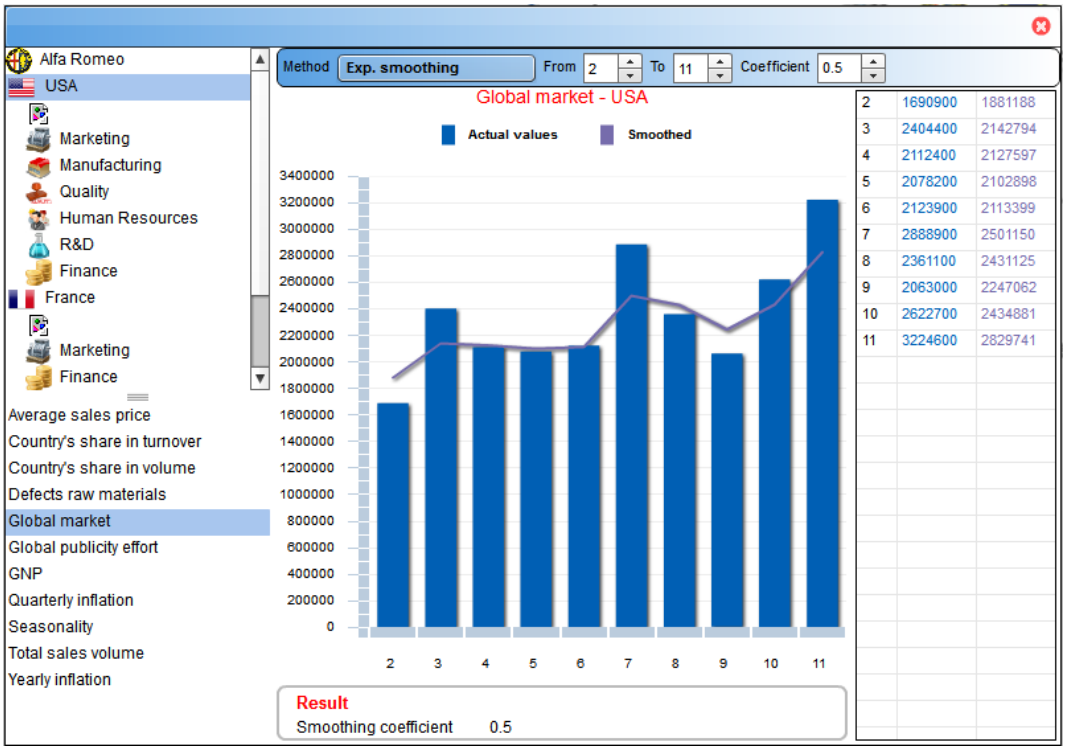
You can limit the range of the quarters of the analyzed series but you need at least 8 quarters to get a result. The calculation is the prediction values of this variable for the months remaining until quarter 24.

- Open the menu TOOLS / QUANTITATIVE METHODS
- Select the location and domain of the variable to be analyzed
- Double-click the variable in the list
- Select the method "seasonal adjustment".
- Select the range of quarters of the analyzed series. (Must be at least 8 quarters for assessing seasonality).

The time series analyzed in blue, the trend line in green and the series resulting model in yellow are displayed on one graph.

The program displays a table showing the seasonal coefficient for each quarter.
The forecast is based on the trend line on which we apply the coefficient of the quarter.

4. EXPONENTIAL SMOOTHING



This is a simple smoothing which you can choose the coefficient.

You will get results of the smoothed series.

The time series analyzed and the resulting series model are displayed on the same graph.

You can limit the range of the quarters of the analyzed series.

The calculation is the prediction values of this variable for quarters until the past quarter.

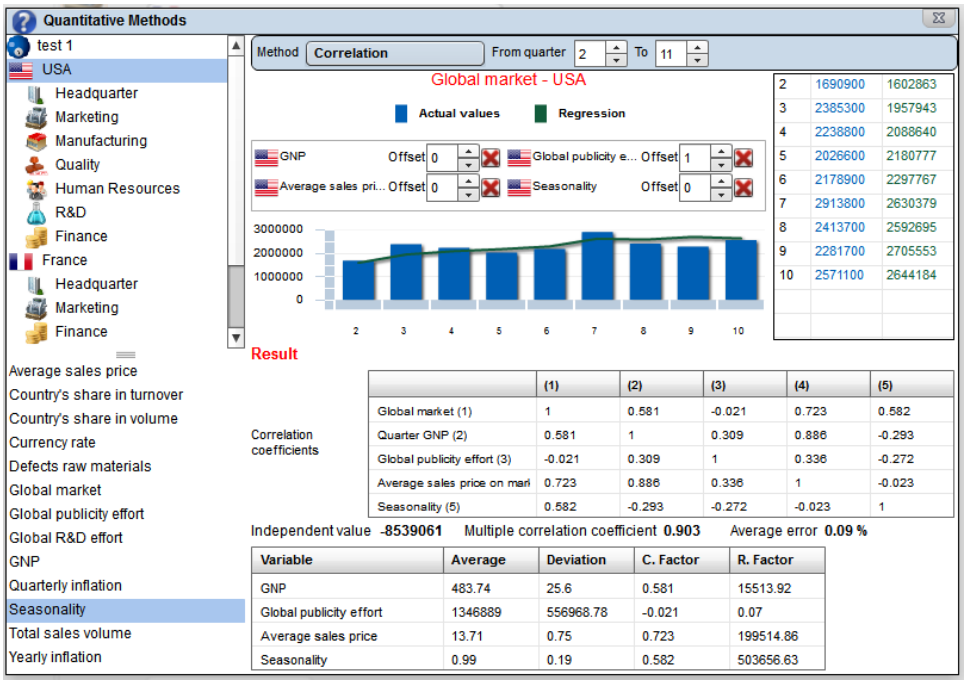
The exponential smoothing method is simple:
you start with an old value and you see a new value to calculate a smoothed by applying a smoothing coefficient X.

Smoothed value = old value + smoothing coefficient X (new value - old value)

- Open the menu TOOLS / QUANTITATIVE METHODS
- Select the location and domain of the variable to be analyzed
- Double-click the variable in the list
- Select the method "exponential smoothing".
- Select the range of quarters of the analyzed series.
- Optionally change the smoothing factor between 0 and 1

The blue bar chart represents the analyzed series.
The smoothed variation is in purple.

5. CORRELATION



Select the "**Correlation**" method.

This tool is particularly interesting to analyze the influence of variables on each other.
This will allow you to analyze and predict changes in variables such as market, market shares, the stock market value ....

To apply for the calculation of multiple regressions, you choose the dependent variable and the independent variables (one to five).

Click on the selected dependent variable in the list of data base item.

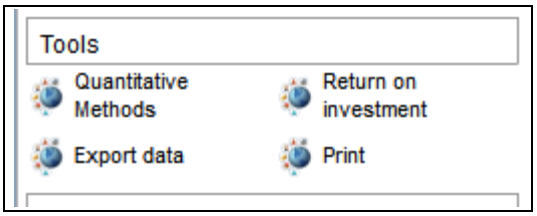
Then, drag & drop the independent variables into the frame above the graph area.

For each independent variable, you can request a time offset of one to four quarters ahead or behind.
This can be useful in judging the effects of persistent or delayed these variables on the dependent variable.

The program calculates and displays the **correlation coefficients** and, if the matrix is not singular, realized the matrix inversion, then will calculate the **coefficients of the linear equation**, results of multiple regression.

So you get the mean, standard deviation and correlation coefficients between dependent and independent variables, and the term independent of the equation.

H. Return on investments



As the game progresses, you will be asked to consider investing, depending on your strategy translated in your plans.
Generally, to finance these investments, you will have to consider borrowing or capital increase. You will have to present your request to the banker who will ask you for a business case justifying the loan.

Of course, you will have to present your sales forecasts and the corresponding production plans but you will also evaluate the investment plan best suited to the financial point of view:

- is it better to invest once in a significant capacity increase, but then some of this capacity could be underutilized waiting for additional sales which would saturate.
- or is it better to capacity increases in several slices, gradually, according to sales growth, but in this case each time undergoing the fixed cost investment.

You will have to show the expected return on the time range when your investment will bring additional margin.

To compare the profitability of these various assumptions, you have a model of "**DISCOUNTED CASH FLOW**."

You record your investment plan

- new capacity and quarter in which this capacity is installed
- expected additional sales (quantity, quarters' range, net margin per unit IN LOCAL CURRENCY and country of sale.

Based on a discount rate you choose, the program will calculate the net present value of profit arising out of your plan: NPV (**NET PRESENT VALUE**) and **INTERNAL RATE OF RETURN** (**IRR**) ie the discount rate which set the net present value to zero.

The calculation of "**IRR**" is made by iterations. It could stop after 100 iterations if there is no convergence.

The program will also show **PAYBACK** period of your investment.

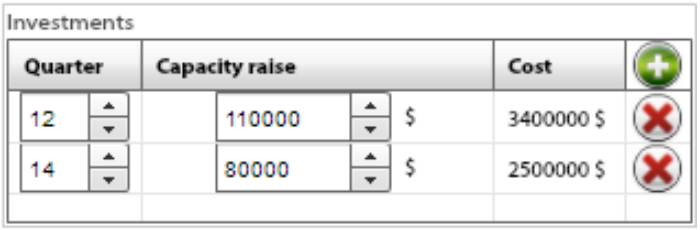
The calculation is repeated automatically when any element of the hypothesis is changed.

Be sure to provide a quarters range of your new capacity usage to have economic significance (your investments are amortized over 10 years).

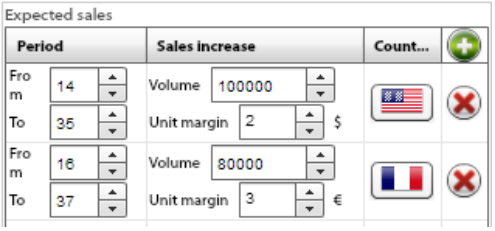
You can save the project with a number of hypotheses (from 1 to 5 assumptions, beyond the current hypothesis) giving it a title: example: Project 1. These hypotheses remain stored and can be recalled to modify and then save another variation of your project.

To calculate a Return On Investment :

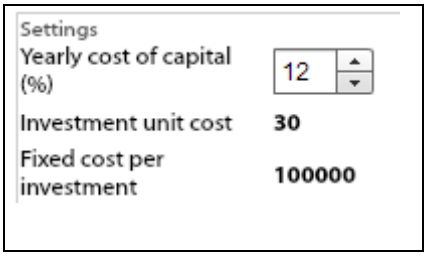
Use the menu « TOOLS/RETURN ON INVESTMENT ». A popup window is open:



- You introduce your **investment plan** (new capacity and quarters where this capacity is installed)
- Use the + button to add a slice to increase capacity.
- Change the value created by default.
- Use ⊗ button to delete the line
- Vary the assumptions of quarters and capacity to see the impact on the calculation



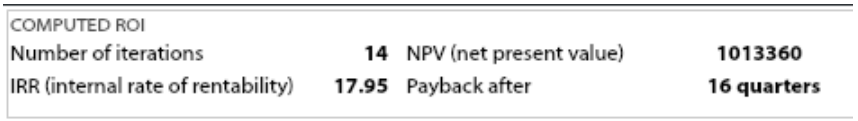
- Enter the expected **additional sales plan** (time range, quantity, **NET** margin by unit and country of sale). Take care of entering margin in local currency!
- Use the + button to add additional sales.
- Change the default values loaded: first quarter, last quarter, sales growth in units, country (click on icon)
- Use ⊗ button to delete the line



Investments cost are calculated on basis of scenario rules:

- A fixed cost by capacity increase slice
- A unit cost by unit of increase

You can vary the Discounting rate : it should correspond to a « normal » profitability rate + the inflation rate to take into account the depreciation of the money value compared to the current value when to invest.



Based on a discount rate you choose, the program will calculate

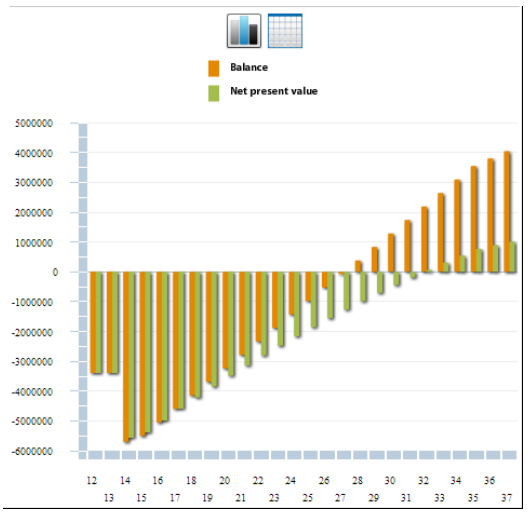
- the net present value (**NPV**) of profit arising out of your plan. (**NET PRESENT VALUE**)
    - the **INTERNAL RATE OF RETURN** (**IRR**)i.e. the discount rate which cancels the net present value.

  This calculation is done iteratively. It could stop after 100 iterations if there is no convergence, when. the project's profitability is insufficient, < 100%, or exceeds 100%

- The program will also calculate the **PAYBACK** period of your investment therefore the number of quarter where spending is offset by income..

The two buttons at the bottom right of the menu allow you:

- To display the graph of gross flows and the discounted flows
- To display a table showing the flow of revenue and expenses



Qu...	pctUsageCapacity	Cash flow	Discounted CF	Balance	Net present value
23	95%	452000	326534	-1884000	-2481288
24	95%	452000	317024	-1432000	-2164265
25	95%	452000	307790	-980000	-1856475
26	95%	452000	298825	-528000	-1557650
27	95%	452000	290122	-76000	-1267528
28	95%	452000	281671	376000	-985856
29	95%	452000	273467	828000	-712389
30	95%	452000	265502	1280000	-446887
31	95%	452000	257769	1732000	-189117
32	95%	452000	250261	2184000	61144
33	95%	452000	242972	2636000	304116
34	95%	452000	235895	3088000	540012
35	95%	452000	229025	3540000	769036
36	42%	252000	123967	3792000	893004
37	42%	252000	120357	4044000	1013360

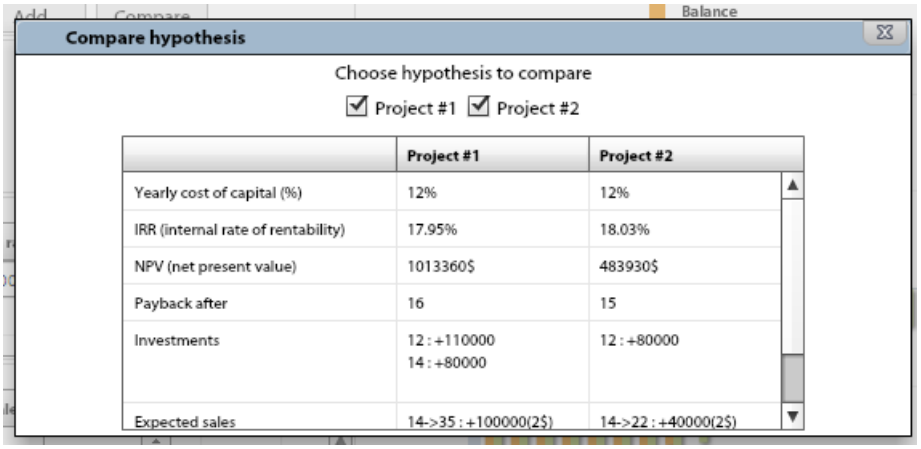
On the yellow curve, when the balance between the gross investment costs & the gross sales incomes from margins is passing the zero level, this quarter correspond to the "**payback**" period.

On the green curve, when the balance between the gross investment costs & the gross sales incomes from margins is passing the zero level, this quarter correspond to the quarter when the project value become positive.

While modifying the project parameters (quarter, margin, country…), you will see the curves adjusted dynamically.

If you display the table of flows, you will find for each quarter :

- The % of usage of your new capacity (sales / new capacity)
  - It would normal that the new capacity would not be totally used immediately when installed. You could then modify your project to spread the increase over several quarters.
- The gross value flow (income – expenses) for this quarter
- The same value but discounted with the selected rate.
- The balance of gross flow cumulated since the first quarter of investment
  - In red balance remain negative
  - In green when income compensate expenses
  - The quarter when the value are switched from red to green correspond to the "**payback**"
- The balance of discounted flow cumulated since the first quarter of investment correspond to the net value reached at each quarter
  - In red the net value remains negative
  - In green when discounted incomes compensate discounted expenses
  - The net value of last quarter corresponds to the "**NPV**" of the project



	Project #1	Project #2
Yearly cost of capital (%)	12%	12%
IRR (internal rate of rentability)	17.95%	18.03%
NPV (net present value)	1013360$	483930$
Payback after	16	15
Investments	12 : +110000 14 : +80000	12 : +80000
Expected sales	14->35 : +100000(2$)	14->22 : +40000(2$)

You can view and print a comparison chart, which will include the contents of various assumptions and expected profitability. This could be useful in negotiating a loan with your bank.

I. Objectives & strategy

In quarter only 12, you will have access to modify the table that determines the choice of objectives and priorities that you assign.

From the quarter of 13, the update is disabled but you have access in consultation with the objectives of your competitors.

Score and objectives

Objectives | Indicators | Ranking

Priority	N°	Objective	Weight	Optimization	Based on
Top	1	Earning per share	2	Maximum value	Last quarter
2	2	Return on equity	2	Maximum value	Last quarter
3	3	Company market value	2	Maximum value	Last quarter
4	5	Profit over turnover	3	Maximum value	Last four quarters
5	6	Worldwide market share	3	Maximum value	Last quarter
6	8	Sales plan accuracy	1	Minimum value	Average since quarter 12
7	14	Inventory turnover	1	Minimum value	Average since quarter 12
8	17	Retained earnings	2	Maximum value	Variation since quarter 12
9	25	Satisfaction of personnel	1	Maximum value	Last four quarters
Bottom	31	Quality cost vs sales	1	Minimum value	Average since quarter 12

1. Objectives

The example shown is not obligatory the list of objectives for your session!

This list of goals is imposed.

You will assign a priority to each goal and you will have to follow them throughout the game

TO CHANGE THE PRIORITY OF YOUR GOALS (12 quarter only)

The objectives are displayed in descending order of priority.

If you want to change the order, click the associated target line and keeping the mouse button down, mount the line up or the line down and release the button to "drop" the target to the level desired. (drag & drop)

To chose them, analyze deeply the meaning of classification criteria. Adopt and stick to a policy that meets your highest priorities. More your goal receives a high priority, more it will weigh in your ranking.
This method of ranking favours continuity.

Those who succeed "by chance" on certain criteria that they had neglected, are penalized. Continuity with those who pursue their goals, while neglecting others, have an advantage.

By analyzing the significance of criteria, you will find that some are correlated or antagonists. By spreading your weight, you can spread the risks or instead focus on the interrelated criteria.

You will see in this list that you should aim to maximize or minimize certain objectives.
You could earn more .... or lose more.

The model will calculate each quarter the value obtained on each of these objectives and results will form the basis for ranking.

Control of the game may request that the value taken into account on each target is based on a different time period:

- on the value of the last quarter played
- on the average of the last four quarters
- on the average from the quarter 12 since the opening of the game

It is possible that the control have set a different weight for each criterion.
The higher is the weighting & the greater is the success of this goal more you will get points.

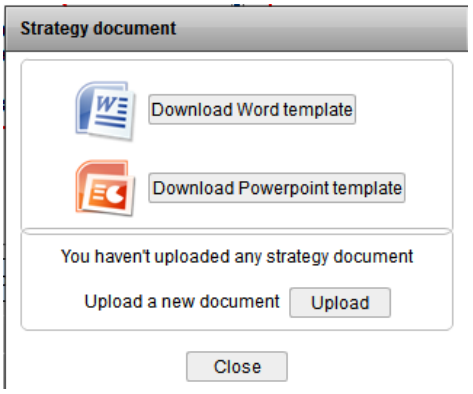
2. Strategy

Starting the session, in quarter 12, you will have to define and save the strategy you adopt to achieve the objectives chosen. In the task list of the quarter, you will see:

You will need to write a document in Word or PowerPoint and communicate it to the control of the game

To initialize the process, you can download a template document and then modify it.

Click the "Strategy" to open the pop-up menu



Choose the model to download in Word or Powerpoint.

You can also prepare your document without using these "templates" and save it in one of the following formats

- Word (. Doc or. Docx) •
- Powerpoint (. Ppt,. Pptx,. Pps. Ppsx)
- PDF (. Pdf)

Choose a document name that will clearly identify your universe and your team for example:
"Strategy Team Universe 1 3 IBM.docx"

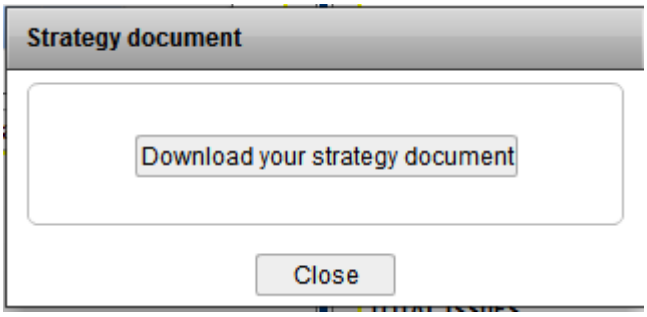
When your document is ready (and definitely before the end of the quarter 12), use "Upload" to communicate your strategy to control the game

The program will ask you to identify the location where you saved your document. When the document was sent, it will also be available on your team. Strategy document is never available to your competitors.

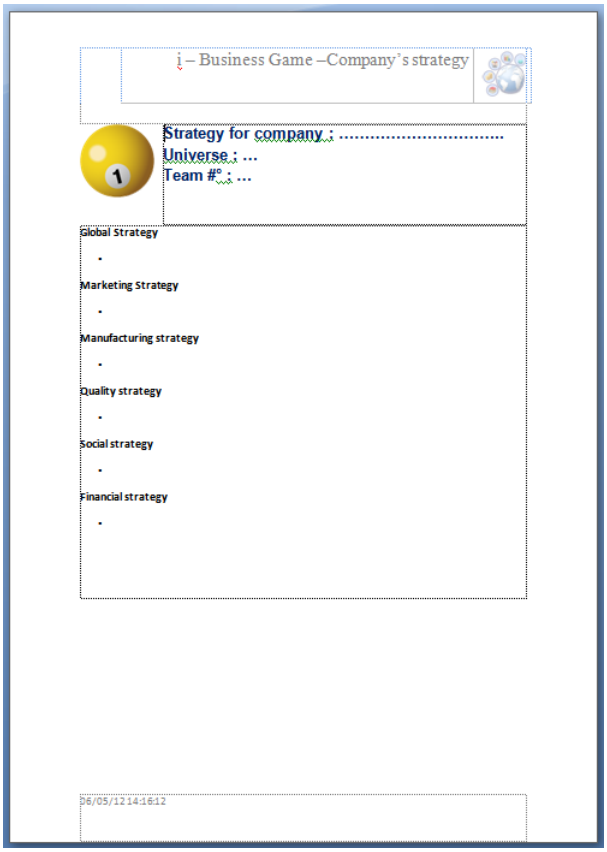
It can not be changed after the quarter 12.

READING THE STRATEGY OF YOUR TEAM

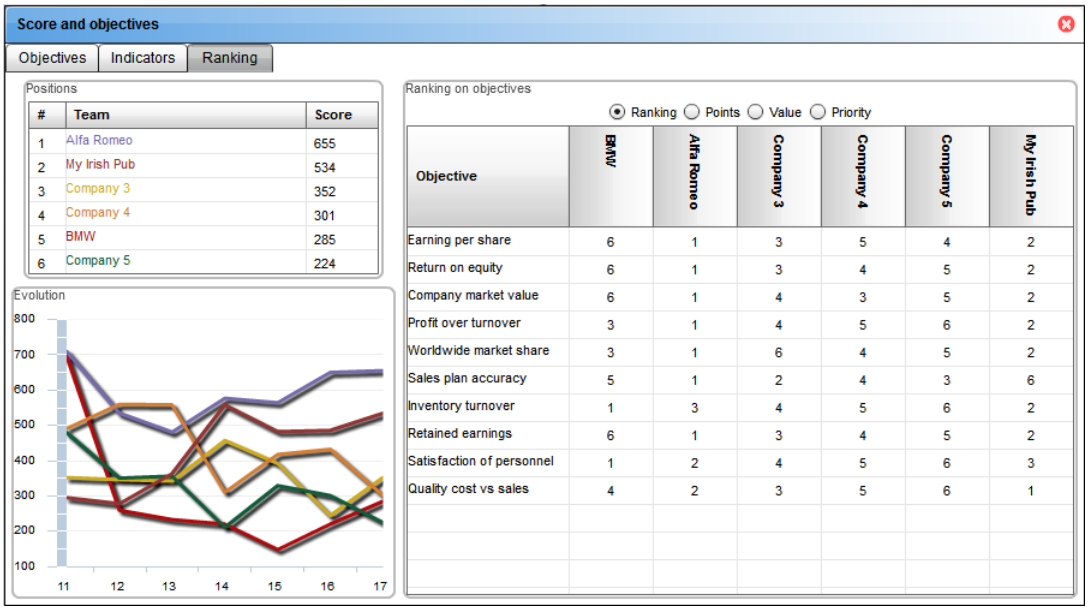
Select the menu "DOCUMENTS/STRATEGY"



Request the download of your document. It will be placed on your PC as all downloads from the Internet and then you can consult it.



3. Game's ranking



#	Team	Score
1	Alfa Romeo	655
2	My Irish Pub	534
3	Company 3	352
4	Company 4	301
5	BMW	285
6	Company 5	224

Objective	BMW	Alfa Romeo	Company 3	Company 4	Company 5	My Irish Pub
Earning per share	6	1	3	5	4	2
Return on equity	6	1	3	4	5	2
Company market value	6	1	4	3	5	2
Profit over turnover	3	1	4	5	6	2
Worldwide market share	3	1	6	4	5	2
Sales plan accuracy	5	1	2	4	3	6
Inventory turnover	1	3	4	5	6	2
Retained earnings	6	1	3	4	5	2
Satisfaction of personnel	1	2	4	5	6	3
Quality cost vs sales	4	2	3	5	6	1

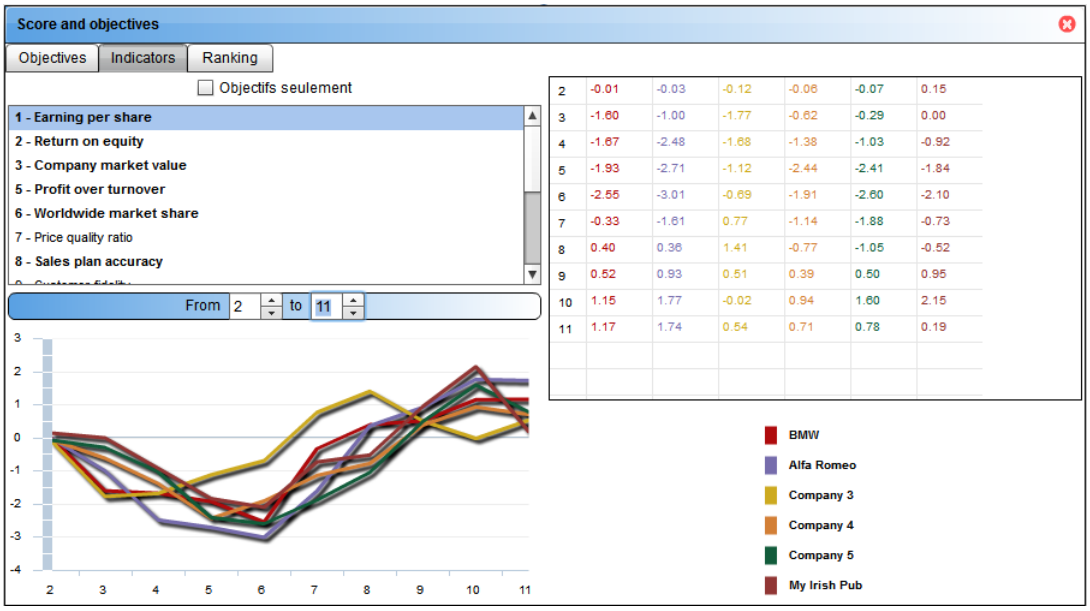
The ranking of the game will be determined based on the results obtained for the objectives & priorities of you've chosen at the beginning of the session.

Every quarter, you can find out the score and classification as well as the values obtained for each objective.

You can view:

- The place obtained on each criterion
- Points scored on each criterion
- The values obtained for each criterion for ranking
- The priorities chosen by the competitors

4. Competition analysis



2	-0.01	-0.03	-0.12	-0.06	-0.07	0.15
3	-1.60	-1.00	-1.77	-0.62	-0.29	0.00
4	-1.67	-2.48	-1.68	-1.38	-1.03	-0.92
5	-1.93	-2.71	-1.12	-2.44	-2.41	-1.84
6	-2.55	-3.01	-0.69	-1.91	-2.60	-2.10
7	-0.33	-1.61	0.77	-1.14	-1.88	-0.73
8	0.40	0.36	1.41	-0.77	-1.05	-0.52
9	0.52	0.93	0.51	0.39	0.50	0.95
10	1.15	1.77	-0.02	0.94	1.60	2.15
11	1.17	1.74	0.54	0.71	0.78	0.19

In this menu, you display the values calculated by the model of the game for the criteria being the objectives of all teams and you see the corresponding graph.

In addition, the animator of the game can provide you with additional performance indicators to help you to “benchmark” your activity with your competitors

They can be related to your business only or be available also for your competitors.

They do not intervene in the list of objectives coming into play to calculate the ranking.

In the list, these objectives are in bold characters, indicators not in bold.

J. IN CASE OF ERROR

Several types of anomalies may occur in the course of the game.

ERRORS IN DECISIONS

They are always marked with an error message issued by the program (most of these messages are immediately understandable).

You find the attached error list at the end of this Guide..

You must correct these errors to calculate simulated results and to communicate your decisions at the end of the quarter,to the control of the game

ERRORS USING THE PROGRAM

In principle, they are always marked with an error message issued by the program (most of these messages are immediately understandable).

For additional information, refer to the help available on the menu of the game.

The controls are such that these errors should not affect the result of the game

If this error occurs when you follow the instructions, note the procedure you follow and which causes the error and refer to administrators of the game

SOFTWARE ERROR

Although these programs have undergone numerous tests, it is possible that programming errors remain.

To allow immediate or delayed correction, please take note of circumstances that led to this error and found symptoms such as the messages or any abnormal reaction of the program.

Contact the animator in the game

DON'T FORGET TO CONSULT « FAQ »

Frequently asked questions

HOW TO DO ?

To change the name of your company
To change the logo of the company

To recopy the decisions of the previous quarter
To correct an error announced in the decisions
To modify a credit limit already granted
To correct decisions already validated
To correct an error " in good faith " in the decisions already transferred
To transfer the decisions after the validation

To post a graph for a data available on report menus

To know the objectives of my competitors
To prepare the text of its strategy on a text processing

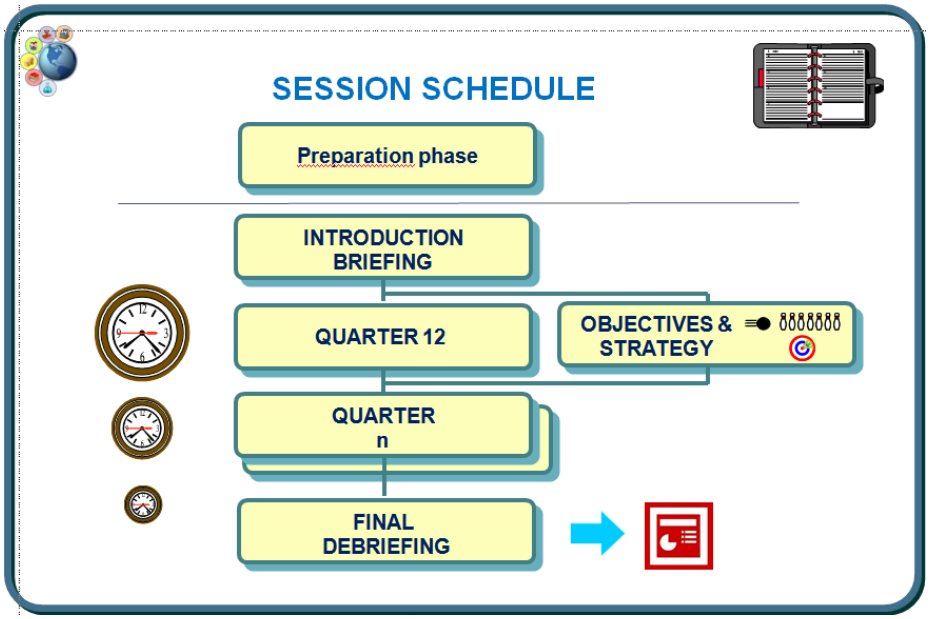
To transfer the data of the game towards Excel
To change the language used
To send a message to the controller of the game
To request an appointment with the banker or the SEC
To use the seasonnality factors in the data base

QUESTIONS RELATED TO THE RULES OF THE GAME

What is our product ?
How to know the economical conditions on the 3rd country ?
What to do if the personnel of production is insufficient ?
What to do if the personnel of Quality staff is insufficient ?
Are the decisions used for simulations the same ones as the real decisions ?
Why the earnings per share are they different according to the report or the posted menu?
What are the " indicators " that I can visualize in the analysis of competition ?
What does the manufacturing variances include ?
How is it made that my customers are always dissatisfied whereas I improved my quality ?

VIII. SESSION'S ORGANIZATION

A. Session's structure



The game session is usually preceded by a preparatory phase which begins a few days before the session itself.

During the session, the first day is devoted to

- explain the rules
- guide your thinking about the objectives and strategy
- prepare the decisions of 12 quarter

The time allotted for this quarter will be long enough since the first quarter is often a quarter where investments are numerous and involve budget requests.

Subsequently, the time given for subsequent quarters will be reduced.

At the end of the session, you will prepare the debriefing session during which you present your results and the animator of the game will give you his "feedback" on your team and on the session.

B. Preparing a session

For the session you receive preparation instructions and access codes to use the website i-Business Game where you will find:

- The User's Guide
- The team members
- The agenda of the session
- The parameters of the scenario in which you will play
- The history of your company

Do not be scared by the volume of documentation!

The **User's Guide** is a reference document, which sets out the playing rules, explains the reports, details the handling of different programs, describes the organization of the session, explains the error messages.

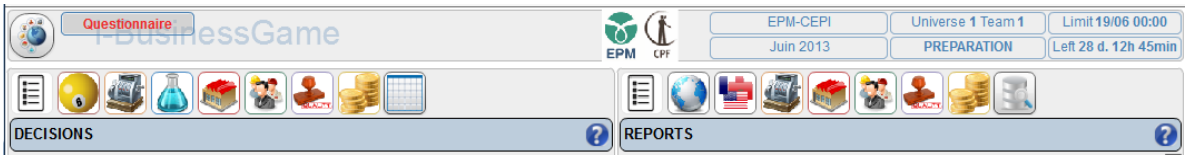
You can review if you have any doubt, by accessing it through an index.

For preparation, it is not necessary to read everything: you have to read the introduction and **chapter III** which describe the **rules of the simulation**. You have to understand the articulation of the reports described in **Chapter IV** to know what your accounting structure is and to exploit the reports you receive today.

It is also necessary to understand how to define your **objectives** and your **strategy**.

For the rest, know what tools are available, without really learn to use them and you will see that the manipulation of the program is simple and intuitive and you have a "HELP" online when in doubt.

C. Using the game in "preparation mode"



Before the game session, you will access the website of the game in the "Preparation" mode.

Early in the game session, you will switch to "Real mode".

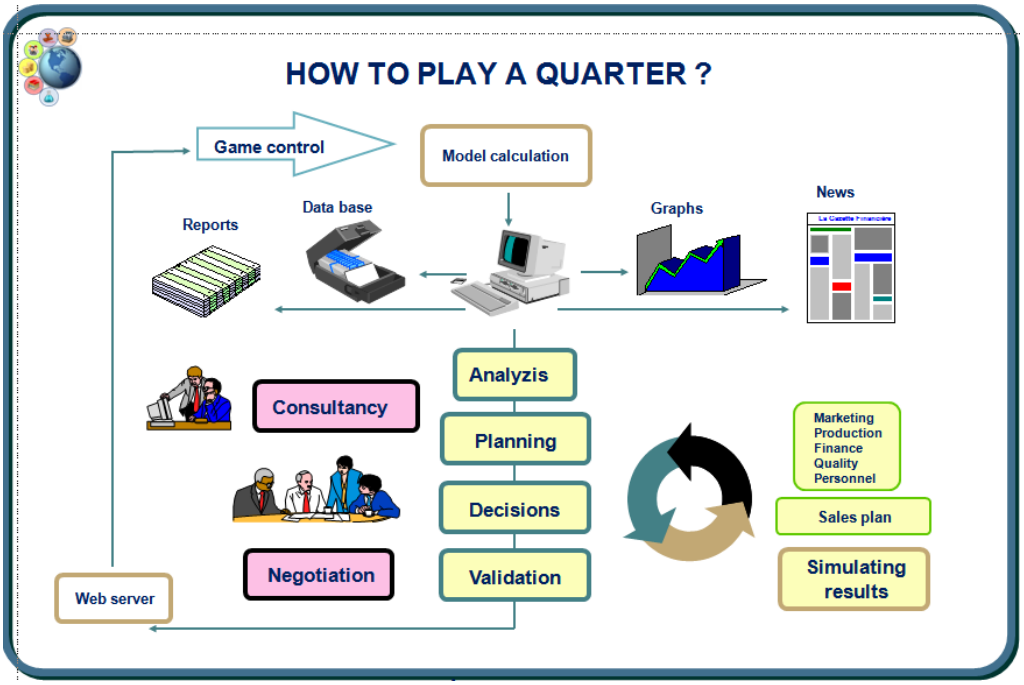
Mode "preparation" is intended to:

- You discover the business you run and the markets in which it operates. You will have a three-year history.
- Familiarize yourself with the simulation software and in particular
  - The reports available
  - The database and graphics
  - Quantitative Method
  - The Financial News
  - The transfer of data to Excel
- Give you access to documents
  - User Guide
  - Online Help
  - Frequently Asked Questions
  - Preparation Instructions
  - Guided tour o
  - Game's tutorial
- Give you information about the session
  - Agenda
  - Team composition
  - Session Parameters
- To help you to respond to the " Preparation questionnaire "

In this mode, certain functions are not accessible and will be activated in "real mode":

- The choice of name and company logo
- The data entry and recording of decisions
- The simulation of results
- Setting objectives and strategy

D. How to play "a quarter" ?



The game is played on a network. It is accessed on the Internet, your intranet or on a dedicated server with a Web browser such as Internet Explorer, Firefox, Google Chrome, Safari ...

Your PC must have a recent version of "**Adobe Flash Player**"

The game data is held in a "data base" which allows sharing of data with game control.

Then you can on your own PC, view reports, view and print graphs, analyze the variables of the database through quantitative methods, read the Financial News ...

Evaluating your performance against your decisions and the last quarter of your strategy you will analyze the position of competitors.

On this basis you prepare your plan and adapt the decisions of the quarter.

You submit these decisions to a simulation and can evaluate various scenarios. If the scenario predicts an increase of one of your lines of credit or a variation of your capital, you should request the intervention of "banker". Do it early and thoroughly prepare the case for its approval. All non approved requests credit line will be rejected and your cash will suffer!

Once your decisions are ready, you validate them and send them to the control of the game

All this in a limited time will be announced on the main menu of the game
Be aware that the game speeds up a quarter to the next!

E. The role of the animators

The Game administrator has several roles.

- He uses the « Universe workstation » from which the simulation control is performed. He distributes the results and Financial News.
- He will assist you with his advices:
  - using the program
  - market information
  - rules of the game
  - quantitative methods
  - principle of ISO 9000
  - strategy definition
  - ...

This information is free of charge.

The Game administrator will push you to discover by yourself the major part of the answers.

He will refuse to answer to a question which would give you an abnormal advantage on competitors.

Some question will lead him to give the same information to all teams.

He will also be a banker or "SEC". You will present him your financial needs. He will judge the validity of your plans and will decide to help you or not to take the risk.

He will push you to work as a real team, to understand before deciding, to open your imagination.

He will try to avoid you to make technical errors which would abnormally influence the Game results.

IX. ERROR MESSAGES

E001 THE STOCK MARKET CANNOT ABSORB THESE SHARES

You try to increase your common stock over the limit that the market can accept for this current quarter. Please call the SEC representative for additional details.

E002 INVENTORY DOES NOT COVER THE MOVED QUANTITY

You try to re-import a quantity from a foreign country but this quantity is not available.

E003 VALUE(S) OUTSIDE LIMITS

A typed value is outside the accepted range. The limit can be defined by the game rules, the scenario or by a likelihood test. Please correct.

E004 PRICE INCREASE EXCEEDS ALLOWED LEVEL

Your new sales price exceeds the limit of regulations. The limit's value is displayed in error window.

E005 PURCHASED BACK SHARES EXCEED ALLOWED QUANTITY

You can only buy your own common stock shares in the limit defined by market constraints and SEC recommendations that you have negotiated.

E006 MONEY MOVES ARE FORBIDDEN

The money transfers are controlled. Please limit the decided amount at displayed value.

E007 EXPORT EXCEED IMPOSED LIMITATION

You try to export more than the quota imposed for this quarter.

E008 PRODUCTION EXCEED AVAILABLE CAPACITY

The planned quantity in the quarter cannot go beyond the machine capacity installed in the last quarter.

E009 LAYOFFS EXCEED ACCEPTABLE LIMIT

Set back the manpower to the displayed limit

E010 NOT ENOUGH MANPOWER TO MAKE THIS PRODUCTION

The planned production total for the three markets multiplied by the work-time per unit, exceed the available manpower hours. The calculation takes into account the training, quality related tasks and the manufacturing itself.

E011 ERROR ON HEADCOUNT IN QUALITY DEPARTMENT

This number, obviously numerical, must be compatible with the assigned Quality Control tasks.

E012 ERROR ON THE % OF SUPPLIERS UNDER QUALITY INSURANCE

Must be in the range of 0 to 100. In case of , respect the imposed minimum

E013 ERROR ON THE ANNUAL NUMBER OF THE QUALITY AUDITS

Above or equal to zero, lower than 6. If no audit the efficiency of Quality Assurance will be affected. A too high value would have no significant incremental effect.

E014 ERROR ON REQUESTED AQL LEVEL

The quality of purchased raw materials is linked to the requested AQL that must be between 0.5% and 6%.

E015 ERROR ON % OF PARTS UNDER AUTO-CONTROL

Between 0 and 100

E016 ERROR ON % OF SALES UNDER QUALITY ASSURANCE

Between 0 and 100%. 100% means that 100% of finished goods are tested.

E017 HEADCOUNT OF QC DEPARTMENT IS INSUFFICIENT TO PERFORM THESE TASKS

The tasks related to your Quality decisions, the decided production volume and the sold defective parts leading to the Warranty Service cannot be realised with the planned QC staff. To know the minimum staff size use the Required button

E018 ERROR ON SAMPLE SIZE FOR RECEIVING

The sample submitted to destructive inspection must have a minimum size of 16 and the total lot size must be at least ten times the size of the sample.

E019 ERROR ON LABOR WEEK HOURS

Must be between 32 & 45 hours

E020 THE WORKING TIME MUST RESPECT THE REGULATION

Each company can decide its own labour time policy but the labour week cannot exceed the limit defined by the country regulation.

E021 ERROR ON YEARLY VACATION

Defined as a number of vacation weeks.

E022 YEARLY VACATIONS MUST RESPECT THE REGULATION

Each company can decide its own yearly vacation policy but the number of weeks must be equal or above the minimum limit defined by the country regulation.

E023 ERROR ON % OF WORKERS SHARING THE MERIT BUDGET

The merit budget is distributed to a population defined as a % of the personnel and must be between 0% and 99%. If this budget is not zero the percentage must be at least 1%.

E024 ERROR ON EARNING RATIO ALLOCATED TO PROFIT SHARING

Must be between 0% and 100%.

E025 ERROR ON BONUS

Defined in the local currency. Can be zero and above.

E026 ERROR ON SOCIAL EXPENSES

Between 0% and 10% of the total compensations.

E027 ERROR ON % OF COMPENSATIONS ALLOCATED TO TRAINING

Between 0% and 10%.

E028 ERREUR SUR LA PRIME D'INCITATION AU DEPART VOLONTAIRE

Between 0 et 36 months

E029 QC STAFF INCREASE EXCEEDS MAXIMUM

You plan to increase the Quality Staff to be able to manage the planned decisions but the manpower market does not allow you this increase within one single quarter. You should spread the increase over several quarters and change some of these decisions.

E030 REDUCING QC STAFF EXCEEDS MAXIMUM POSSIBLE IN THIS QUARTER

You are trying to reduce the size of the staff quality to cut costs, but this decrease can not be done on a single quarter.

E031 INSUFFICIENT CAPITAL AFTER SHRES BUY BACK

The cumulative share repurchases leads you to an unacceptable capital. Review the number of action to reduce your share number decrease

E032 YOUR SALES FORCE IS ABNORMALLY LOW

You must properly cover your sales territory and the number of sellers is introduced abnormally low

E033 YOUR SALES FORCE IS ABNORMALLY HIGH

You must properly cover your sales territory but the number of vendors introduced is abnormal

E034 ERROR ON QUALITY CIRCLE NUMBERS

Between 0 and 20. The number of Quality Circles will lead to a higher need of QC staff to animate the Circles.

E035 Your equity is incompatible with the planned dividend

Your Board of Directors has decided to refuse the planned dividend since your equity level is too low

E036 Your recent results are incompatible with the planned dividend

Your Board of Directors has decided to refuse the planned dividend since your results of last quarters are too low

E037 Exported quantities exceed quota

Limit the exported quantities to the specified quota.

E038 REFURBISHING CANNOT EXCEED INSTALLED CAPACITY

Set this value down, equal or lower than current capacity

E039 ERROR ON THE % OF THE WAGES GENERAL INCREASE

Defined as a percentage of basic salary, it must be between 0% and 15%.

E040 INCOHERENT LEVELS OF SAMPLING SIZE AND CONFIDENCE LEVEL

The sample must contain at least 16 pieces and must be smaller than 1/10 to check the lot
The confidence level is the threshold of defective products from which the lot is rejected. It obviously cannot exceed the sample size

E041 ERROR IN PLANNED SHARES NUMBER

Check if the requested value is realistic and negotiate it with the game administrator playing the SEC role.

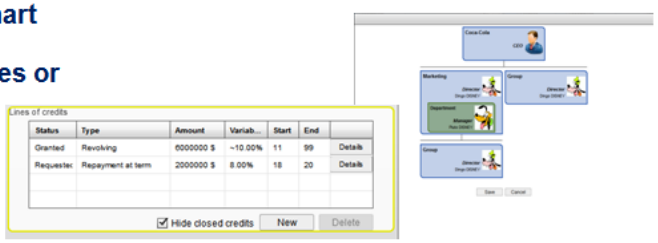
E042 IMPOSSIBLE TO EXPORT BACK & TO PRODUCE IN THE SAME TIME

You try to return products to the factory from a subsidiary' and have decided to produce destined to the same subsidiary

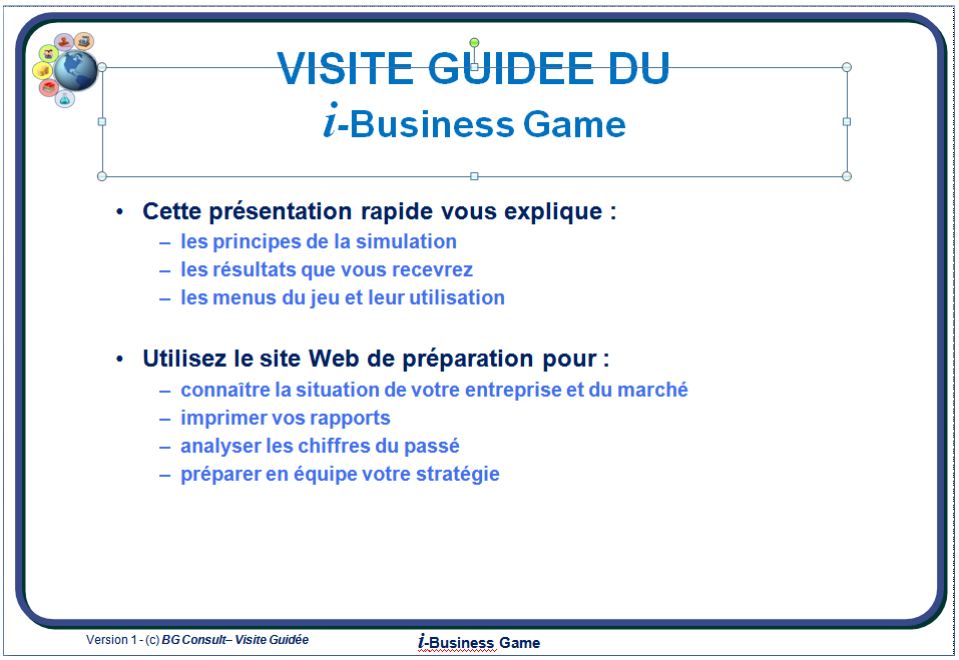
What to do in quarter 12 ?

- Assign priorities to objectives
- Define and record your strategy
- Choose your company name
- Choose the company logo
- Record your organization chart
- Negotiate eventual credit lines or common stock variation
- Take your first decisions…

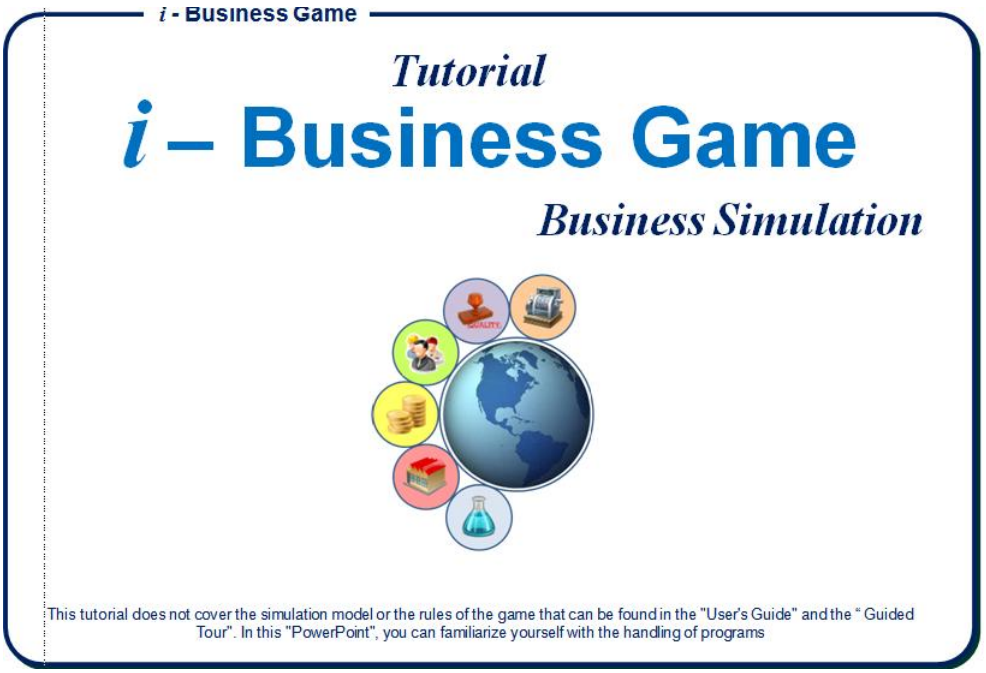
Priority	N°	Objective	Weight	Direction	Based on
1	1	Profit per share	1	UP	Last quarter
2	14	Inventory turnover	3	DOWN	Total since quarter 12
3	2	Return on equity	2	UP	Last quarter
4	31	Quality vs sales	1	DOWN	Total since quarter 12
5	5	Profit over turnover	4	UP	Last four quarters
6	3	Company net value	1	UP	Last quarter
7	6	Worldwide market share	1	UP	Last quarter
8	17	Cumulated earnings	2	UP	Variation since quarter 12
9	8	Sales plan accuracy	4	DOWN	Total since quarter 12
10	25	Satisfaction of personnel	1	UP	Last four quarters



Discover the *i*- Business Game in the « Guided Tour »



And in the the *i*- Business Game « Tutorial »



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